MARCH 1950

FIREMEN

FIFTY-FOURTH YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

VOLUME 17, NUMBER 9, COPYRIGHT 1950 NATIONAL FIRE PROTECTION ASSOCIATION PRINTED IN U. S. A.

ROCKWOOD AUTOMATIC PROPORTIONER

for FOAM Liquid and Wetting Agent

Built into New Mack Pumper for West Springfield, Mass.

Fire Chief Frederick Sibley standing alongside his new triple combination 750 g.p.m. pumper built by the Mack Manufacturing Corp.

FOAM liquid and Wetting agent are automatically proportioned into fire hose lines by the latest type Rockwood Automatic Proportioning equipment built into the new triple combination Mack 750 gallon pumper recently delivered to the West Springfield, Mass. fire department.

This new proportioning equipment was specified by Fire Chief Frederick Sibley because it makes it possible to apply FOAM or Wetting agent to a fire with far greater speed and less work than with old style methods. It will also save the cost of the proportioning equipment thru the more economical use of FOAM Liquid and Wetting agent.

Chief Sibley also included the new Rockwood Type FFF FogFOAM Nozzles, Rockwood Type SG-48 WaterFOG Nozzles with extension applicators, Rockwood FOAM Liquid and Rockwood Wet in specifications for his new truck. This provides the West Springfield department with the most modern proportioning equipment and appliances for applying FOAM, Wetting agent and water to fires.

Both Rockwood FOAM Liquid and Rockwood Wet were designed to give you the most efficient results in fire fighting and to protect your apparatus from damage. Specify these latest Rockwood products when ordering your new fire truck.

FogFOAM being discharged from 1½" Type FFF Nozzle at West Springfield, Mass.

Solid FOAM stream discharge from 1½" Type FFF Rockwood Nozzle. Same Nozzle will also discharge high velocity WaterFOG.

ROCKWOOD

ROCKWOOD SPRINKLER CO.

88 HARLOW ST. WORCESTER 5, MASS.

Specialists in Fire Prevention Engineering Equipment and Installation since 1907

"The finest fire apparatus in the world

...but can we afford it?"

● Fire chiefs in many parts of the country are still faced with the problem of fighting fires with obsolete or inferior apparatus. According to latest surveys, much of their equipment is over-age, or otherwise ill-fitted to meet the constantly growing burden placed on departments by today's conditions.

Nor is this situation due to lack of foresight on the part of city or town officials. Hampered by the necessity of making the tax dollar go as far as possible, our local governments often feel that they must postpone the purchase of new apparatus until the old can no longer be kept in service.

But now much of the reason for such hazardous chance-taking can be eliminated. For, depending on local ordinances and the financial status of your community, Mack will help finance the purchase of replacements on a deferred yearly payment plan.

It's good business to pay for Macks this way—for *Macks outlast them all!*

There's no finer fire apparatus in the world than Mack. Continually improved for 40 years, Mack apparatus is built with rugged strength to give peak performance under all conditions for many years to come.

When planning your next purchase of equipment, be sure to investigate how easy it may be to buy Macks—and why Macks are your best buy in fire apparatus.

Special note to Fire Chiefs

Compare specifications and service facilities. Mack gives you that extra margin of power and dependability, with service and spare parts nearer at hand. Write for folders on Pumpers . . . Squad and Hose Cars...or Ladder Trucks.

Modernize with . . .

Mack

...outlasts them all!

Mack Manufacturing Corporation • Fire Apparatus Division, Long Island City 1, N. Y. Factory branches for parts and service in all principal cities. In Canada: Mack Trucks of Canada, Ltd.

CAIRNS

The "LIFE-GUARD LINE" of

FIRE HELMETS

• • • • • • • • • • • •

IN LEATHER

The "NEW YORKER"

(No. 5A--Regulation)

Made of selected, tough, top-grain leather specially tanned and treated for hardness and heat resistance, the "NEW YORKER" is the safest, strongest, most durable helmet ever made. Service records up to 30 years are not unusual — making it the least expensive helmet a fireman can buy.

We also make leather helmets in drop brim and other types, and in other weights.

IN ALUMINUM

The "SENATOR"

(No. 350--Regulation)

Pressed from one piece of metal, with corrugated four-comb crown and beaded reinforced brim, the "SENATOR" combines safety, strength and durability with light-weight comfort. It is equally popular with volunteers and regulars.

We also make aluminum helmets in drop brim and other types.

IN PLASTIC

The "CLIFTON"

(No. 900--Regulation)

Here's a replica of the "NEW YORKER" in shape but made of "Flintflex"—our superior plastic material that is light in weight, hard without being brittle, and tough and flexible while still retaining its shape. It's non-conducting and resistant to water and chemicals.

We also make helmets of "Flintflex" in drop brim and other styles.

Write for Catalog 330 showing everything a fireman needs for his personal equipment — together with Department Record Books, Secretary's Book, and printed forms.

• • • • •

CAIRNS & BROTHER, INC.

OUTFITTERS TO FIREMEN SINCE 1836

854 Bloomfield Ave., Allwood, Clifton, N. J.

ADT

PERFORMANCE 1949

Year after year the high ratio of immunity from fire and burglary losses is convincing proof of the exceptional effectiveness of ADT Central Station Protection Services.

The accompanying performance record for 1949 merits the careful consideration of owners, business executives and others responsible for property protection.

BURGLAR AND HOLDUP ALARM SERVICES

Attacks on ADT Protection	1,866
Entrances effected	1,017
Captures as result of burglar, holdup and other emergency alarms	739
Insurable values of properties protected	$2,439,854,000*
Ratio of losses to insurable values protected	1/100th of 1%
Burglary loss immunity in 1949	99 99/100 %

AVERAGE BURGLARY LOSS IMMUNITY DURING THE PAST TEN YEARS 99 99/100 %

*Not including ADT-protected values in bank vaults, the U.S. Treasury, 26 Federal Reserve Banks and branches, the U.S. Mints and the U.S. Bullion Depositories at Fort Knox, Ky., and West Point, N. Y.

WATCHMAN'S REPORTING AND MANUAL FIRE ALARM SERVICE

Investigations of failures of watchmen to signal Central Station on Schedule	203,651
Total number of signals recorded	350,217,000
Watchmen's patrol efficiency	99 94/100ths %
Alarms from Manual Fire Alarm Boxes	1,167
Insurable values of properties protected	$15,157,491,000
Ratio of losses to insurable values protected	3/100ths of 1%
Fire loss immunity in 1949	99 97/100 %

AVERAGE FIRE LOSS IMMUNITY DURING THE PAST TEN YEARS 99 96/100 %

SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE

Supervisory alarms, indicating temporary impairment of sprinkler systems	181,127
Waterflow alarms, caused by fires or serious leaks	2,883
Manual fire alarms	112
Insurable values of properties protected	$8,572,030,000
Ratio of losses to insurable values protected	2/100ths of 1%
Fire loss immunity in 1949	99 98/100 %

AVERAGE FIRE LOSS IMMUNITY DURING THE PAST TEN YEARS 99 98/100 %

These figures are of special significance because they reflect the importance of continuous supervision, regular inspections and tests, and proper maintenance. Such specialized attention is essential to constantly dependable protection service.

Write for booklet "Protecting Life and Property" describing all ADT Services.

Controlled Companies of

AMERICAN DISTRICT TELEGRAPH COMPANY

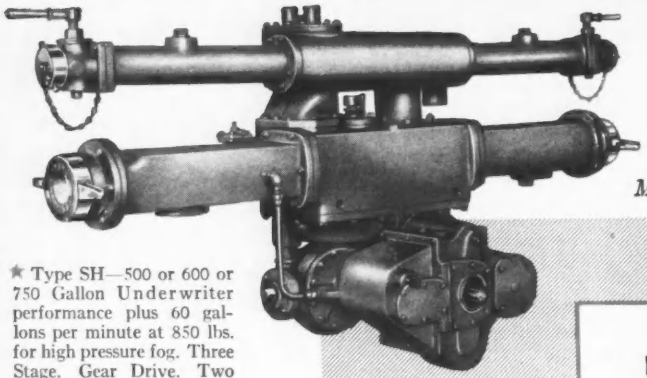
155 Sixth Avenue, New York 13, N. Y.

CENTRAL STATIONS IN ALL PRINCIPAL CITIES

ADT

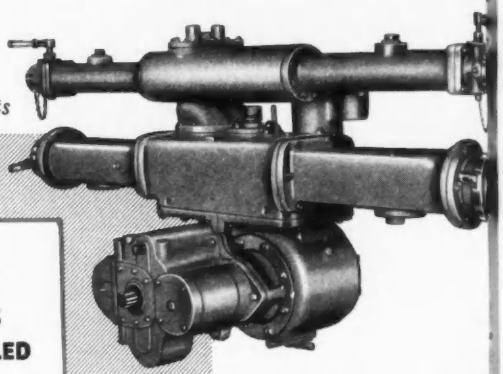
CHAMPION FIRE PUMPS

Write for Booklet on Fire Trucks and Pumps



★ Type SH—500 or 600 or 750 Gallon Underwriter performance plus 60 gallons per minute at 850 lbs. for high pressure fog. Three Stage. Gear Drive. Two suction inlets, 4", 4½" or 5". Two 2½" discharge valves (3 on 750 Pump).

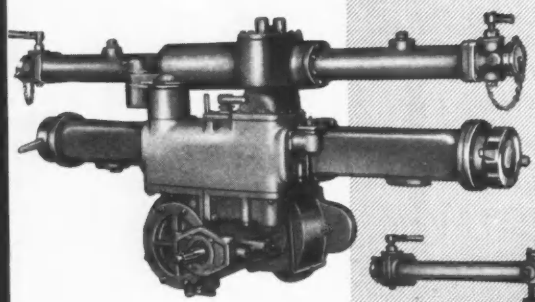
Midship Mounts



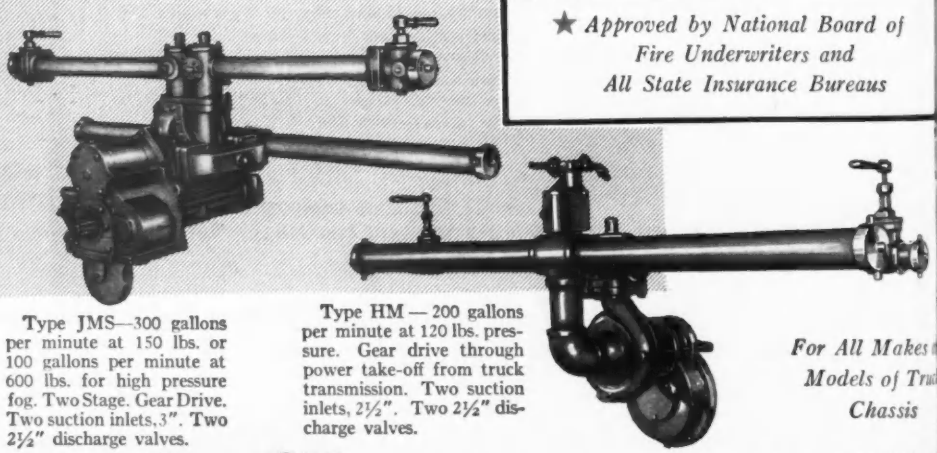
★ Type S—Capacities 500-600-750 gallons per minute at 120 lbs. pressure. Two Stage. Gear Drive. Two suction inlets, 4", 4½" or 5". Two 2½" discharge valves. (3 on 750 Pumps).

DARLEY CHAMPIONS ARE UNEXCELLED FOR PERFORMANCE STAMINA ENGINEERING

★ *Approved by National Board of Fire Underwriters and All State Insurance Bureaus*



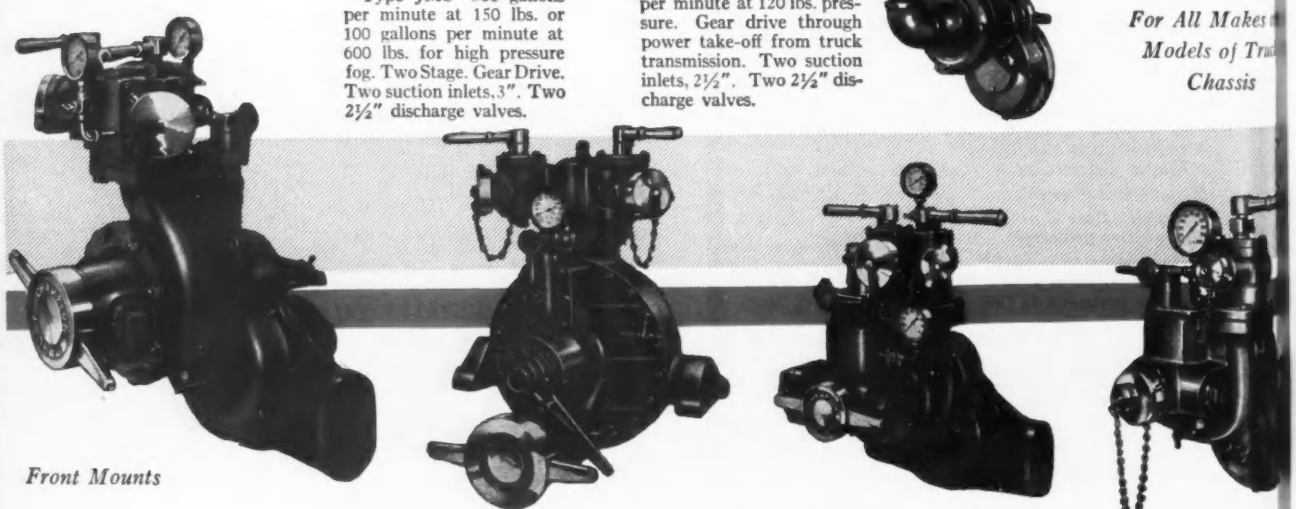
★Type M — Capacities 400-500 gallons at 120 lbs. Gear Drive. Two suction inlets, 3½" or 4". Two 2½" discharge valves.



Type JMS—300 gallons per minute at 150 lbs. or 100 gallons per minute at 600 lbs. for high pressure fog. Two Stage. Gear Drive. Two suction inlets, 3". Two 2½" discharge valves.

Type HM — 200 gallons per minute at 120 lbs. pressure. Gear drive through power take-off from truck transmission. Two suction inlets, 2½". Two 2½" discharge valves.

For All Makes Models of Tru Chassis



Front Mounts

★ Type KF—Capacities 400-500-600 gallons at 120 lbs. Gear Drive. 3½", 4", 4½" suction. Two 2½" discharge valves.

★ Type F — Capacities 400-500 gallons at 120 lbs. Direct Drive. 3½, 4" suction. Two 2½" discharge valves.

Type JFS—300 gallons per minute at 150 lbs. Pressures up to 1000 lbs. Two Stage. Gear Drive. 3" suction. One 2½" and two 1½" discharge valves.

Type H—100 gallons per ute at 500 lbs. pressure. Drive. 2½" suction inlet discharge valve.

W. S. DARLEY & CO. Established 1908 Chicago 12

Firemen

Volume 17 Number 3

WARREN Y. KIMBALL, EDITOR
OWEN L. DELLA LUCCA, ASSOCIATE EDITOR
CHARLES S. MORGAN, ADVERTISING MANAGER

Published monthly for the fire service members of the
NATIONAL FIRE PROTECTION ASSOCIATION
A VOLUNTARY NON-PROFIT ORGANIZATION
60 BATTERYMARCH ST., BOSTON 10, MASS.

PERCY BUGBEE, GENERAL MANAGER
ROBERT S. MOULTON, TECHNICAL SECRETARY
HORATIO BOND, CHIEF ENGINEER

Contents for March 1950

	Page
When the Fire Is Out, by Anthony J. Mullaney	8
Smokey Says, "Thank You" for the U. S. Fire Service	10
Greatest Fire Department Instructors Conference at Memphis	11
A Frequency Assignment Plan for the Fire Radio Service of Virginia	12
1949 Fire Losses	13
Latest British Fire Appliances	13
New Fire Alarm Central Station at Bethlehem, Pa.	13
Forty-one Fatalities at Davenport	14
Contest for Fire Departments Serving Farm Areas	14
Fires in the News	15
Super Markets and Suburban Shopping Centers, by Warren Y. Kimball	16
Fire Departments and Civil Protection in France	18
The North Muskegon Volunteer Fire Department, by Chief Ed. Klecka, Jr.	20
Fire Company Section	21
U. S. Treasury Frowns on Proposal to Make Contributions to Volunteer Fire Companies Tax Exempt	22
New Pumper at Ludlow, Mass. "Has Everything"	25
Country Club Fire at Rosedale, Pa.	26
Boston Hospital Guards Against Fire	28
Amphibious Fire Brigade at Maine Cannery	30
Piston Type Pumper Available from Howe Company	30
Officer Training for Fire Departments	32
John Neale New Chief Engineer of National Board of Fire Underwriters	32
Sixth Annual Arson Seminar at Purdue	33
Corps of Canadian Fire Fighters to Meet at Hamilton, Ont.	33

The cover photo

by James M. Keen shows destruction of a 175 ft. long frame tavern and dance hall structure located on a county road outside of Louisville, Ky The owner and helper discovered the fire in the heater room when they opened in the morning. They fought the fire with extinguishers and buckets until it was too late to save even the contents of the cash register. County fire companies from St. Matthews and Middletown were unable to save the structure. The heater was located in a utility room near the front of the building instead of being in a fire retardant cut-off area where a fire might have been localized.

The Value of Water

The tremendous amount of publicity given to the water shortage in the New York City area has provoked volumes of humor but should cause some serious thinking regarding the value of potable water in the life of a civilized community. Settlers coming to a new continent have found water plentiful in most areas and the supply relatively unpolluted by pressures of population. Accordingly Americans have come to consider good water to be a cheap commodity. They are prepared to pay 25 to 30 cents per gallon for gasoline for their automobiles but complain if the water bill for an entire family exceeds 50 cents per week.

The large quantities of pure water available at the turn of a faucet is one of the major miracles of American civilization. Few persons stop to realize that water must be transported long distances from water shed and reservoir areas through large conduits, must be purified in vast quantities to make it safe for human consumption, must be stored in large tanks and reservoirs in the community to provide a reserve near where it is to be used, must be piped through an extensive network of water mains, and must be delivered at desirable pressures throughout the area served, possibly involving costly large capacity pumps, elevated storage or both.

The fire department's interest in the water distribution problem arises due to the fact that water is a chief weapon of the fire fighter. Automobile fire apparatus has made it possible for fire fighters to concentrate a very large pumping capacity in the immediate vicinity of almost any urban fire in a matter of minutes. However, the water has to be brought to the scene months or years in advance of the emergency. Water main and hydrant distribution must anticipate to a considerable extent the growth of each neighborhood. Experience at many fires in the past several years has indicated that available fire department pumping capacities frequently have far exceeded the water distribution at the point where the fire occurred. Fire departments should be aware of the problem and: (1) Should know how much water is available at each locality; (2) They should not attempt to operate more streams than the water supply can provide, because to do so will result in ineffective streams (which are due to inefficient fire fighting tactics more than to the deficiency in water supply or pressure); (3) Fire fighters should seek to make the most effective use of available water and employ modern fog type nozzles for maximum cooling effect, 1½-in. hose for better distribution of available water, more efficient pumper layouts, and better placing of equipment including use of pumps as water booster or distributor units, and use of larger supply lines to reduce pressure losses between hydrant and fire; (4) the fire department should take a sympathetic view toward the problems of the local water utility whether publicly or privately owned. After all, the water system can count for more deficiency points in the underwriters grading schedule than the fire department itself. It is in the fire department's interest to help the water authorities obtain the financial support necessary to provide the type of hydrant distribution service that will assure the fire fighter of a supply at least equal to the capacity of his pumpers.

Utilizing Limited Water Supplies

Fire departments must face the fact that with the rapid growth of most communties following the war, water distribution systems have not in all cases been able to keep pace with the demand for water for domestic and industrial consumption, plus the required fire flow. Crying "low water pressure" over blackened ruins has never restored a stick of property and is a "red herring." It indicates to the initiated that the fire department did not know its job.

Fire apparatus are equipped with pumps capable of delivering capacity at 120 or 150 lbs. at a lift of 10 ft., so are not dependent upon the pressure in the mains but rather on the volume of water available. If there is even 5 lbs. residual at a hydrant it will give 417 gpm through a 2½-in. outlet or 1350 gpm through a 4½-in. outlet flowing full.

Where the volume of water available is inadequate, the fire department must: 1. Carry more water on its apparatus (using larger booster tanks) and supply 1½-in. lines from tanks backed up by hydrant feed line or pumper relay. 2. Make much more extensive use of small streams. 3. Utilize all possible static suction locations and encourage development of local water storage tanks and reservoirs near all important properties. 4. Urge installation of automatic sprinkler protection backed by adequate private water supplies and fire pumps.

When the Fire is Out

by Anthony J. Mullaney

Paper presented at the 22nd Annual Fire Department Instructors Conference, Memphis, Tennessee, January 12, 1950.

The duties of a fire department "when the fire is out" constitute an interesting and important subject, and is one which has been given very little consideration in conferences covering the technical aspects of fire fighting. It is true that these "pick-up" duties are the common variety of labor and actual drudgery in many respects and are naturally the least glamorous part of fire fighting. However, from a practical standpoint these duties are highly essential; every fire department that wishes to fulfill its obligations faithfully, give true meaning to its purpose of saving life and property, and render efficient service to its public must learn to accept them as one phase of a complete operation.

TODAY, companies can remain in service after fires are under control and receive and respond to other alarms via radio communication as promptly and efficiently as they would from company quarters via the conventional alarm system. In the old days, companies had to hurry back to quarters to be ready and able to respond to other alarms. For that reason, fire departments did not devote the necessary time in overhauling after fires. Radio communications being what they are at present, that excuse can no longer be used; fire departments now have time and opportunity to perform these finishing touches.

It devolves upon fire departments in cities that do not have an organized salvage corps to carry some salvage covers and tools and thus be prepared for emergencies that a trained salvage unit would handle ordinarily. There is some justification to the idea that the work remaining in buildings after fires is the sole responsibility of owners — to be assumed by them or their agents. However, if we in the fire service adopt this attitude, in a sense we isolate ourselves from the public. I am speaking in bromides when I say we need the public as much as the public needs us. If we desire to promote satisfactory public relations, we have one of the simplest means of doing so right at hand at any fire. In the final analysis, a discriminating fire department strengthens its relations with the public and at the same time achieves a sense of satisfaction when it performs a cleancut, finished job after fires. The subject of public relations is one that has been stressed by numerous conferences in recent years, and while the idea to maintain and improve public relations is sound, little thought has been given to ways and means of accomplishing the fact. The purpose of this paper is to indicate a few of the elemental ways and means which if acted upon will produce lasting beneficial relationships between a fire department and its public.

When fires occur at night or on Sundays or holidays, it is practically impossible to engage contractors and workmen to make emergency repairs to a building. The damage that results at such times could be averted easily by sensible precautions and a little work and effort on the part of the fire department. All fires present different problems of overhauling from the simple one of a smoldering mattress to a complex grain elevator that has burned to the ground with hundreds or thousands of tons of grain smoldering in a high pile of debris. Whatever the problem, the solution for any department lies in using common sense and in following the old adage, "DO UNTO OTHERS AS YOU WOULD HAVE OTHERS DO UNTO YOU." It is surprising how much damage and destruction can be avoided by use of this simple philosophy. For example, in attempting to locate fire in ceilings and side walls, an efficient officer with ability to trace and time fire travel will perform this operation in a workmanlike manner with a minimum of damage. Any department that pulls side walls and ceilings over stock, rugs, furniture and fixtures without thought of unnecessary damage, is guilty of an offense which can only be attributed to ignorance, carelessness, or lack of experience.

Avoid Throwing Debris from Buildings

CONSIDERABLE salvage can always be produced by careful overhauling during and after fires. Piles of debris should not be washed with heavy streams, but should be carefully overhauled, separated and smoldering particles dipped in pails of water. Wet articles that are likely to drip water should be placed in "bagged" salvage covers. Partially burned articles and valuable articles which might be hidden in the debris should not be thrown from buildings as considerable salvage and value may be involved. In many cases, portions of articles serve a useful purpose when inventories or claims of losses are made. In fires involving rags and old paper stocks, where little space is available, it is sometimes necessary to throw the material from the building to provide sufficient working space and also to relieve extra weight of water soaked bales. There can be no objection to removing lath and plaster, but as a rule burned materials should not be thrown from buildings. This practice should be observed even in automobile fires in which cases overhauled upholstery, cushions or merchandise should be replaced in the autos or otherwise removed to prevent littering of the streets.

Anthony J. Mullaney, Chief Fire Marshal
Chicago Fire Department

When wet articles are liable to damage dry material, they should be placed in separate piles, and when packing material is wet, it should be removed to prevent damage to the contents. This is of particular importance when stocks of furniture or similar merchandise are wrapped with excelsior padding, because if they are not cared for immediately, the glued parts will loosen and warping will result. It is always good practice to wipe all wet furniture and fixtures with some absorbent material. Machinery should be well oiled after it has been dried. A circulation of air should always be created after a fire. In cold weather the heating appliances should be arranged to assist in drying buildings, household furniture or stock after they have been exposed to water during fires. When it is difficult to ventilate rooms, portable fans can often be used to create a circulation of air and prevent to some extent further smoke and moisture damage.

It is impractical to attempt to overhaul crockery or other fragile merchandise that is packed in straw and excelsior, and particularly when the working space is limited, because as much damage will result from the handling as from either fire or water. In any event, a man should be left to watch for possibility of a rekindle in this type of merchandise. If one does occur, the owner should be instructed to send a crew of men immediately to carefully separate the packing material from the stock and have the salvaged articles removed to another room or building.

With the use of the recent development of wetter water, it is now possible to avoid to a great extent the messy jobs of overhauling the above described mer-

chandise. The use of this detergent in fires in baled cotton, hay, sisal and other such closely packed material reduces the problems of overhauling a thousandfold. Further research and application of the use of this type of fire extinguishing material should be given greater consideration by fire departments.

THE danger of a rekindle is an ever present fear for fire officers, and in order to avoid such an eventuality, they often use excessive fire streams on ceiling joists and in concealed spaces not readily accessible to close inspection. Such procedures point up an officer's lack of confidence and inefficiency and certainly are not in keeping with modern methods. Much of the damage done in attempting to eliminate every possibility of a rekindle would be avoided if fire officers would learn to gauge fire travel or leave men at fires more frequently to guard against that hazard. In this connection, where a very extensive fire has reduced a large structure or area to a smoldering pile, fire departments accomplish little or no purpose when they continue to saturate the ruins with thousands of gallons of water. Conservation of the water, pumping equipment, fire hose and fuel becomes a worthwhile economy, but one seldom, if ever, considered by fire officers.

Cold Weather

Almost every type, size and occupancy of buildings is affected when exposed to cold weather. Every possible effort should be made, therefore, to close openings and place heating plants in operation immediately after fires. In places where large portions of the roof are burned away, the vertical openings should be covered on the top floor and heat provided for the lower floors. If steam pipes or radiators are broken, they should be disconnected and the pipes capped to permit partial operation of the systems. This work is of particular importance in wholesale market districts and operations to prevent the freezing of fruits and vegetables must commence immediately when a fire is under control.

All plumbing fixtures, tanks and boilers should be drained when it is impossible or impractical to maintain heat in buildings. Water should be removed from all toilet, sink and wash bowl traps after the water has been shut off and all flush tanks drained. If it is necessary to leave a sprinklered building unheated, extreme care should be taken to drain all sprinkler lines and tanks in addition to the heating and plumbing systems. The salvage of plumbing and heating fixtures is an item of considerable importance in large apartment buildings and hotels. They should always be given immediate attention after fires in freezing weather.

Covering Roofs

ANOTHER essential operation is covering holes in roofs. It is wasted effort to save a stock of merchandise or household furnishings by salvage and leave them exposed to and destroyed by the elements later. The manner in which these temporary repairs can be made with salvage covers has been demonstrated in our conferences frequently, and firemen can soon become adept in this work with a little practice. The closing of window and door openings can be performed generally with a box of nails, a few hammers, materials found on the premises and a little ingenuity. When firemen are trained to make these temporary repairs, they learn to be more workmanlike when forcing entrance and ventilating.

After a fire is under control in a sprinklered building, sprinkler valves should be shut off as promptly as possible to prevent excessive water loss. However, the greater danger of fire damage should be uppermost in the mind of an officer when he orders valves closed. The person designated to shut off a sprinkler valve should remain at the valve location for a period of time so that the valve can be reopened should the fire gain headway again.

Sprinkler stoppers or tongs are used extensively to stop the flow of water at sprinkler heads. They are of particular value when there is a delay in locating the control valves or when an entrance has to be forced to the control valve room. When valves are found defective or difficult to set, the use of tongs will prevent the release of much unnecessary water at such times.

A supply of heads of various fusing temperatures should be carried for the replacement of fused heads at fires, together with a supply of various sizes of pipe caps and plugs. Frequently a sprinkler pipe is found broken as a result of freezing or from other accidental breakage. If only a short lead is involved, temporary repairs can be made by having the ruptured section removed and the end of the system capped or plugged. Such cases always should be reported to the local inspection bureau to assure proper permanent repairs.

When building owners incur the expense involved in the installation of sprinkler equipments, fire officers owe it to them as well as to themselves to see that such owners get maximum protection at all times. If possible, sprinkler equipment should always be placed in service after a fire to afford protection against the usual fires liable to occur and also against rekindling.

Usually it is not sound practice to attempt to reset dry valves as that operation requires special knowledge of the particular valves and appliances involved. During mild weather, dry systems in ordinary buildings can be set in wet as a temporary protection when the regular maintenance men are not available. However, if the conditions do not permit setting a system in wet, it is important to contact persons responsible and have them reset the system immediately. As a precaution, it is well to leave a man to watch the premises until the system is placed in service.

Removing Large Quantities of Water

THERE are four general methods of removing large quantities of water from the upper floors which are as follows: by means of elevator shafts; by stairway; by holes cut from floor to floor to drain to the basement, and by chutes to the outside of the building. Before water is directed into the elevator shafts, men should be sent to the basement to cover elevator machinery or any stock exposed. They should also see that the basement drains are open and that material on the floor between the drain and shaft is skidded. When water is directed down stairways, in most cases covers should be opened to half their width and spread on the stairs with ample side elevation or roll, together with well lapped connections.

In cutting holes from floor to floor where it is impossible to use other means, consideration should be given to the lowest part of the floor. Floors easily vary in dead water level from two to three inches even in the best of ordinary or mill constructed buildings, and for that reason, holes cut at high places are of little value. A survey of the lower floors should be made so that the holes will not be cut to drain over stock or household furnishings, even though they are covered. A bag should be placed on each floor to catch the water and be arranged so as to drain directly into the next succeeding hole. Such work should be performed before the floor is opened where the main body of the water exists.

One of the most practical means of draining water from an upper floor or floors of a building is by means of chutes constructed on the floor below the water to drain through windows or doors. Chutes are used whenever the water level will permit draining a floor at a point close to an outside window or door.

Holes should only be cut in floors when large amounts of water are present and draining facilities are limited. When it is necessary to cut a hole, the ceiling below must be punctured, preferably from the floor below, to prevent the water from spreading in the concealed space. While augers can be used in dwellings and other buildings having floors of comparatively light construction, they have little value in the more heavily constructed buildings. Augers tend to stick in holes when water swells the wood, and they often strike nails which prevent the blades from cutting.

(Continued on page 10)

When the Fire is Out

(Continued from page 9)

A neatly chopped, small hole provides better facilities for draining and costs little more to repair. When small quantities of water collect in floor pockets, they should be scooped with shovels into buckets or tubs and removed.

When a building is being heavily deluged with water, holes should be cut as soon as possible to relieve the floors of weight. This action is particularly advantageous when paper, rags, broom corn and similar types of materials are concerned as such stocks absorb water and cause excessive expansion and weight strains upon the structural members of buildings.

After water has been drained from a building, the floors must be dried as soon as possible to prevent warping. While brooms are efficient in sweeping large amounts of water, they leave considerable moisture on the floors and it has been found that squeegees serve the purpose much better. The best type of squeegee has a metal top which assists in pushing large amounts of water. When the squeegee is turned over it can be used as a scraper. The scraper is particularly well adapted to removing water from carpeted floors before they are removed for drying.

Sawdust or sweeping compounds should be used for drying or absorbing moisture under machinery and other places where it is impossible to use a squeegee. These materials may also be used effectively in building dikes to prevent the spread of water and channels to conduct water from one part of the floor to a drainage point.

Basement Drainage

BASEMENT drainage is a much more difficult problem and large losses frequently occur from lack of ample and unobstructed drainage facilities. When heavy streams have been in use, the fire officer should consider not only the stock and conditions in the basement of the buildings on fire, but also the conditions in adjoining basements.

Men should be sent immediately to the basement of the burning building to see that the floor drains are unobstructed and that all stock is removed from the floor. If the building is equipped with sump pumps, the equipment should be examined to see that it is functioning properly. When the floor drains prove inadequate or are obstructed, soil pipes leading from roof drains and upper floor plumbing can be broken very often at the floor level to aid in draining basements. Toilet bowls pried from the floors leave openings which also serve the same purpose but with increased capacity.

If these methods are not effective the stock should be skidded as high as possible and pumps placed at suction from the basement, or siphons should be used to keep the water at as low a level as possible. In the case of adjoining basements, it is often possible to salvage much of the stock by removing it to upper floors. Salvage by this method necessarily depends upon the type of merchandise and furnishings present, together with the availability of elevators, house trucks and manpower. The procedure of moving a large stock of small articles on shelves is extremely difficult because of the time required to handle such merchandise. Under these circumstances it is best to move the stock from the lower shelves to the upper shelves and make every possible effort to maintain a low water level. In all cases, an officer should seek out the owner or persons in charge of a building involved in fire and do his utmost to assist in preventing further loss to the property. Special care and knowledge are necessary in handling fires and subsequent overhauling where telephone switchboards, electric generating and sub-stations and other types of public utilities are involved. It is essential that those responsible for the maintenance of such equipment be present, if possible, to help avoid further damage and subsequent suspension of service to a community in whole or part. In daytime fires when employees are present, they can often be used to help in salvaging and mop-up work provided they are not subjected to any danger. Such cooperation can be attained easily by a proper approach to those in authority.

When water rises in basements to points where it is about to come in contact with motors operating sump pumps, refrigerating systems and other types of machinery, the motors should be shut off immediately. Where the water threatens to rise to dangerous depths, the main electrical switches should be pulled to prevent additional damage to the electrical equipment. Those basements which are impossible to drain should be pumped out with O.C.D. pumpers or other units kept in reserve for that particular purpose in order to avoid undue wear and tear on regular pumping units. Various kinds of siphons have been in general use for many years, but they have been growing in popularity recently. Very light, compact, efficient siphons, adjustable to high or low water pressures are being made especially for draining basements.

As you all know, we have had many disastrous building collapses after fires were under control which were caused by the expansion of contents, water loads and by weakened structural supports caused by partial burning. Every possible precaution must be taken to guard firemen working in and around such structures. This is one phase of fire fighting which cannot be taught in a school room but must be learned by careful observation and hard experience in the field. It is true that men in the fire service must take some risks as fires cannot be extinguished from safe distances under all conditions. However, the thought of possible building collapse after a fire is under control must always be foremost in the minds of commanding officers.

To Be Continued

Smokey Says "Thank You" for the U. S. Forest Service

Clint Davis (center) of the U. S. Forest Service presents Vincent Riggio, president of the American Tobacco Co., with a card of thanks from Smokey the Bear used to dramatize the forest fire prevention message. Last Fall, American Tobacco gave radio support to the Advertising Council's "Prevent Forest Fires" campaign and has promised to give another boost this Spring. Gordon Kinney (left), radio director for the Advertising Council adds his thanks.

FDIC Chairman Richard E. Vernor, Chief Connie O'Sullivan, of Memphis, and Mrs. O'Sullivan, hosts to the Conference.

Part of FDIC crowd in dining hall of the municipal auditorium where Memphis firemen served luncheon each noon.

Greatest Fire Department Instructors Conference at Memphis

DESPITE Mid-West ice storms and high waters along the Mississippi and its tributaries, the 22nd Annual Fire Department Instructors Conference, held at Memphis, January 10–13, was the best attended in history with 775 men registered from 36 states, the District of Columbia and Canada.

Photos (excepting those in upper and lower right corners) courtesy of Hubert Walker, Manager, Sales Engineering, American-LaFrance-Foamite Corp.

Norman Davis of Underwriters Laboratories shows how to rouse drowsy firemen training class in skit, "So you want to be an instructor."

District Chief R. J. Maynard with Memphis Fire Department's "cowboy band" who entertained the conference as part of FDIC Follies.

West Virginia fire officials who strayed over to Tennessee for the FDIC.

George Richardson, Secretary, International Association of Fire Fighters, AFL, presents Chairman Richard E. Vernor with IAFF membership card in recognition of value of his FDIC leadership to professional fire fighters.

Most of the large fire departments of Ohio were represented at the 1950 FDIC.

The Michigan contingent line up at the municipal auditorium.

W. Fred Heisler, Training Consultant, Oklahoma A&M College, presides at luncheon, January 12.

The "Show Me" boys, fire officials from Missouri, stay to worship.

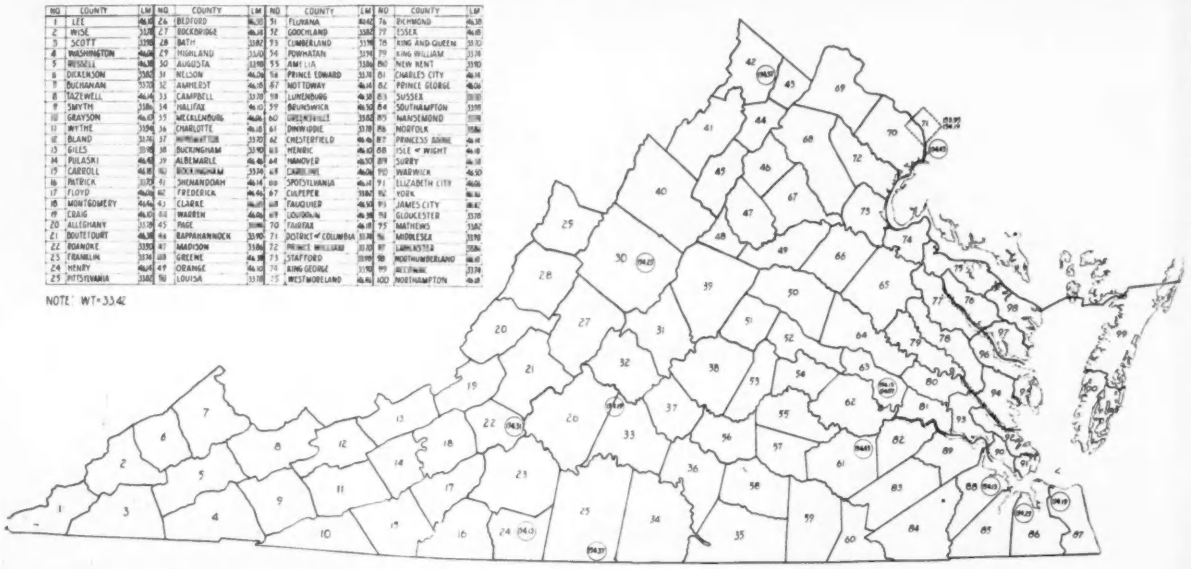
Illinois and Indiana delegations join before the camera, indicating that no wedge is possible between these neighbors.

Huge Memphis municipal auditorium where FDIC meets each January has room for more. Come in 1951.

A Frequency Assignment Plan for the Fire Radio Service of Virginia

NO	COUNTY	LM	NO	COUNTY	LM	NO	COUNTY	LM	NO	COUNTY	LM
1	LEE	46.18	26	BEDFORD	46.30	51	FLUVANA	46.42	76	RICHMOND	46.38
2	WISE	33.28	27	ROCKBRIDGE	46.18	52	GOOCHLAND	33.82	77	ESSEX	46.18
3	SCOTT	33.96	28	BATH	33.82	53	CUMBERLAND	33.96	78	KING AND QUEEN	33.32
4	WASHINGTON	46.06	29	HIGHLAND	33.82	54	POWHATAN	33.96	79	KING WILLIAM	33.38
5	RUSSELL	46.38	30	AUGUSTA	33.98	55	AMELIA	33.86	80	NEW KENT	33.92
6	DICKERSON	33.82	31	NELSON	46.26	56	PRINCE EDWARD	33.78	81	CHARLES CITY	46.14
7	BUCHANAN	33.78	32	AMHERST	46.18	57	NOTTOWAY	46.34	82	PRINCE GEORGE	46.06
8	TAZEWELL	46.46	33	CAMPBELL	33.98	58	LUNENBURG	46.30	83	SUSSEX	33.82
9	SMYTH	33.86	34	HALIFAX	46.42	59	BRUNSWICK	46.30	84	SOUTHAMPTON	33.98
10	GRAYSON	46.42	35	MECKLENBURG	46.06	60	GREENSVILLE	33.82	85	NANSEMOND	33.98
11	WYTHE	33.94	36	CHARLOTTE	46.18	61	DINWIDDIE	33.78	86	NORFOLK	33.86
12	BLAND	33.86	37	NORTHAMPTON	33.42	62	CHESTERFIELD	46.46	87	PRINCESS ANNE	46.42
13	GILES	33.98	38	BUCKINGHAM	33.92	63	HENRIC	46.42	88	ISLE of WIGHT	46.42
14	PULASKI	46.42	39	ALBEMARLE	46.46	64	HANOVER	46.30	89	SURRY	46.38
15	CARROLL	46.38	40	ROCKINGHAM	33.94	65	CAROLINE	46.06	90	WARWICK	46.30
16	PATRICK	33.82	41	SHENANDOAH	46.14	66	SPOTSYLVANIA	46.42	91	ELIZABETH CITY	46.06
17	FLOYD	46.06	42	FREDERICK	46.46	67	CULPEPER	33.86	92	YORK	46.14
18	MONTGOMERY	46.46	43	CLARKE	46.42	68	FAUQUIER	46.46	93	JAMES CITY	46.42
19	CRAIG	46.10	44	WARREN	46.06	69	LOUDOUN	46.38	94	GLOUCESTER	33.98
20	ALLEGHANY	33.98	45	PAGE	33.86	70	FAIRFAX	46.18	95	MATHEWS	33.82
21	ROUTE 10 DUPT	46.38	46	RAPPAHANNOCK	33.92	71	DISTRICT of COLUMBIA	33.86	96	MIDDLESEX	33.98
22	ROANOKE	33.98	47	MADISON	33.86	72	PRINCE WILLIAM	33.82	97	LANCASTER	33.86
23	FRANKLIN	33.94	48	GREENE	46.38	73	STAFFORD	33.98	98	NORTHUMBERLAND	46.42
24	HENRY	46.42	49	ORANGE	46.42	74	KING GEORGE	33.92	99	[illegible]	33.94
25	PITTSYLVANIA	33.82	50	LOUISA	33.98	75	WESTMORELAND	46.46	100	NORTHAMPTON	46.38

NOTE: WT=33.42



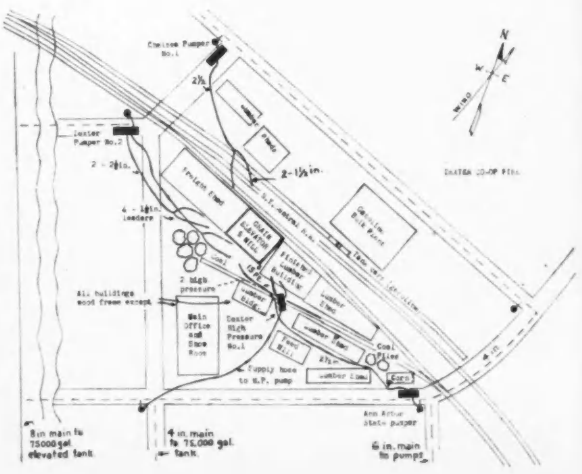
Fire radio frequencies in the 30 to 50 Mc band have been allocated on a county basis for Virginia so that volunteer fire departments in each county can coordinate their activities. This will also make possible individual radio systems for all fire departments which can proceed as they see fit to equip their respective apparatus without waiting for provision of a county-wide station and dispatcher. Cities in excess of 10,000 population will use the 152-162 Mc frequencies for base stations as follows: Richmond 154.13 Mc (also mobile 154.07 Mc), Norfolk 154.19 Mc, Portsmouth 154.25 Mc, Roanoke 154.31 Mc, Newport News 154.13 Mc, Danville 154.37 Mc, Lynchburg 154.19 Mc, Petersburg 154.43, Alexandria 154.43, Martinsville 154.13, Staunton 154.25, and Winchester 154.37. All departments will use their low power walkie-talkie on the 33.42 Mc wave length. The fire service is one of the Public Safety Radio Services covered by Part 10, Rules and Regulations of the U. S. Federal Communications Commission (obtainable from Superintendent of Documents, Government Printing Office, Washington, D. C., 10 cents). A National Radio Allocations Plan can be secured from the International Association of Fire Chiefs, 72 E. 38th St., New York, N. Y. Virginia fire departments can obtain information and required frequency clearances by consulting Mr. Thomas Jones, Room 1116 Municipal Center, Washington, D. C.

Small Streams from Small Mains Stop Big Fire at Dexter, Michigan

DEXTER, Michigan, firemen had a tough battle on a Saturday morning at a fire which started in a freight shed roof and swept through a 60-year-old grain elevator built of thoroughly dry white pine. This was the type of fire that normally would require a number of heavy streams, but the Dexter firemen faced the problem of making the most of limited water supplies from hydrants on a loop of 4-inch mains. This was done by reducing three of five 2½-in. lines to supply six 1½-in. leader lines. One 2½-in. line was used direct on the fire and another supplied a high pressure pumper with two fog guns. This plan was successful in limiting most of the fire damage to the interior of the elevator.

Firemen driving past, discovered the fire which apparently started in a gable roof of the freight shed, immediately adjacent to the elevator. Flames flashed through the dust laden elevator which opened into the freight shed. Fire seemed to ignite the entire elevator instantly. Two lines from the high pressure fog truck knocked out the fire in the freight shed but a brisk wind blowing through large loading floors on opposite sides of the elevator fanned the fire which involved tons of grain.

The Dexter Fire Department directed by Assistant Chief Wines as Chief J. A. Lovell was out of town, called assistance from Chelsea and Ann Arbor, and Pinckney. Chelsea sent a pumper and four men a distance of eight miles. Ann Arbor sent a pumper and three men ten miles. Pinckney sent a pumper ten miles but it was not needed. Water was supplied by a 75,000-gallon elevated tank filled by two 300 gpm pumps on new wells recently installed. The fire loss totaled $88,000.



Contest for Fire Departments Serving Farm Areas

THE National Fire Waste Council, an affiliate with the Insurance Department of the U. S. Chamber of Commerce, is about to launch a nationwide contest for fire departments serving farm areas. The contest, which is intended to stimulate interest in rural fire prevention and protection, will require the filing of a report covering: Loss Record, Fire Protection Equipment, and Fire Prevention Work.

Plans for the contest were developed through several years of work and consultation by a sub-committee headed by Harry P. Cooper, Jr., Secretary, National Association of Mutual Insurance Companies of Indianapolis, and were approved at a meeting of the Council's Agricultural Committee held in Chicago, last November. The first annual contest will cover the period from July 1, 1950 to June 30, 1951.

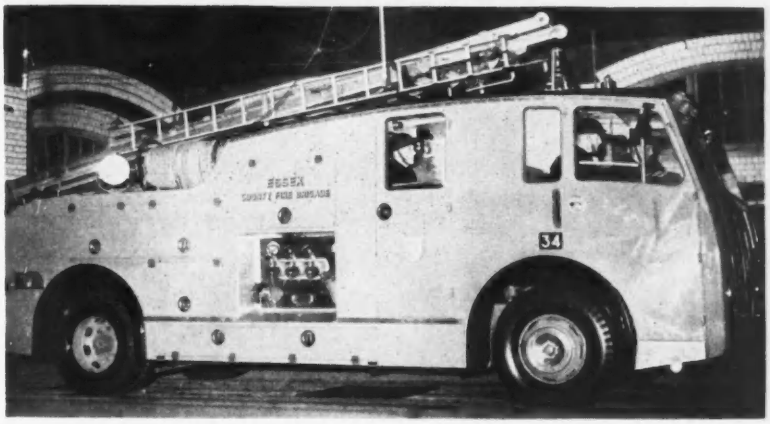
Competing fire departments will be divided into three classes to assure equal opportunity to each contestant. Entry blanks must be filed through local Chambers of Commerce holding membership in the U. S. Chamber. The entry blanks and report forms will be supplied by Chamber secretaries. In case a local Chamber is not a member of the U. S. Chamber of Commerce, the name of the nearest affiliate Chamber of Commerce may be obtained by writing to the National Fire Waste Council, U. S. Chamber of Commerce, 1615 H St., Washington, D. C.

There will be six contest judges including, the editor of FIREMEN, the Editor of Fire Engineering, and representatives of the National Association of Mutual Insurance Companies, the National Board of Fire Underwriters, the U. S. Department of Agriculture, and the National Association of Farm Editors. The judges will select a state winner in each class who will be awarded an engraved certificate. From the state winners will be selected a national winner in each class and one grand prize winner. Each of these will receive a properly inscribed trophy of a rural fireman figure. Each contestant completing and filing a report will be given a certificate of participation by the Council.

1949 Fire Losses

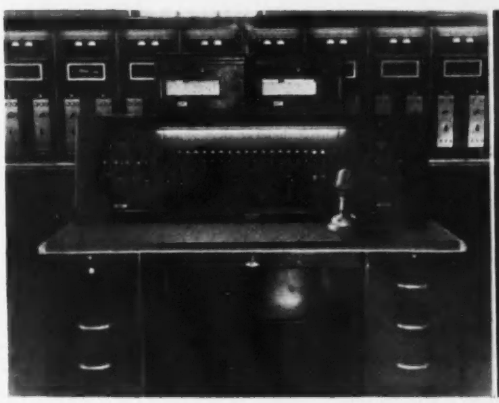
THE National Board of Fire Underwriters has estimated that the 1949 fire losses in the United States totalled $677,536,000, a decrease of about 6 percent from the 1948 record high of $711,114,000. The preliminary estimate is customarily subject to revision before a final figure is released in May.

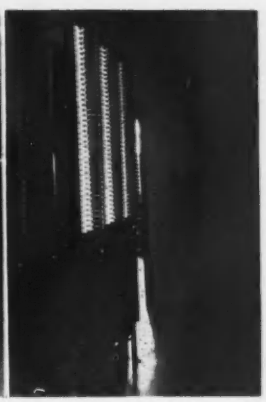
Latest British Fire Appliance



The Essex County Fire Brigade has just acquired this pump-escape of streamlined design and powered by a 160 HP Rolls Royce engine. Back of the driver's seat is a compartment for the crew. Overhead is a 50 ft. escape type of ladder. The apparatus has a built-in searchlight which may be directed from the driver's seat. Note the compartments for various tools. The machine is stationed at Illford about four miles east of London.

New Fire Alarm Central Station at Bethlehem, Pa.





The City of Bethlehem, Pa., is one of the largest in the United States protected by a volunteer fire department. On November 22, 1949, without fanfare, Bethlehem placed in service a handsome new fire alarm central station built and equipped by the Gamewell Company. The upper view shows the operating room with capacity of 24 box and alarm circuits. The switchboard is at the rear and the operator's desk in the foreground. Individual circuit recorders are on a pedestal at the left. Below at left is closeup of operator's desk with manual transmitters for primary and secondary alarm circuits and two master recorders with tape and time stamps mounted above. At right is a wire terminal panel. The central station and installation which also includes the police signal central station cost $200,000. The first Gamewell installation in South Bethlehem was made in 1893 and in Bethlehem in 1894. The cities merged in 1920.

View of St. Elizabeth's Hospital taken from the southwest six months prior to the fire. Front basement was beneath the small porch and entrance to the main floor was at top of the stairs.

View of rear portion of the building taken from the northwest during the height of the fire. Roof and attic dormers have been completely consumed. Basement windows in this portion of the building were entirely above grade.

Firebug
Highly Combustible Building
Delayed Detection
Weak Fire Companies

= 41 Fatalities at Davenport

THE latest in the series of holocausts to make headlines nationally was the fire in St. Elizabeth's Women's Psychopathic Building of the Mercy Hospital in Davenport, Iowa, on January 7th. Forty mental patients, mostly elderly, and one woman attendant lost their lives. Locked doors and barred windows were added factors in a fire that closely duplicated the 74 fatality fire at St. Anthony's Hospital at Effingham, Illinois, last April. The destroyed Davenport hospital building was a two-story brick walled, wooden joisted structure at least sixty years old. It had two stairways enclosed with ordinary thin panel wood doors. Access to the one outside fire escape was blocked by barred windows. A dumb waiter shaft lacked a metal fire door recommended by fire and building department inspectors.

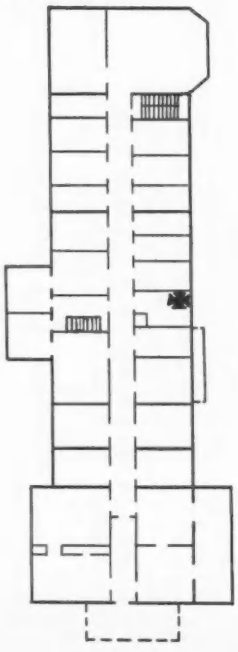
Fire was started by a patient who ignited curtains in her first floor room near the fire escape. She confessed starting the fire in protest over being locked in her room. She broke through a wired glass transom and escaped out the front entrance. Fire spread to the window frame and a wood-lath finish of the inside of the brick exterior wall and spread to the second floor and attic. A partition of pressed wallboard ignited and fire spread into the first floor corridor where a combustible fibre board acoustical ceiling had been recently installed.

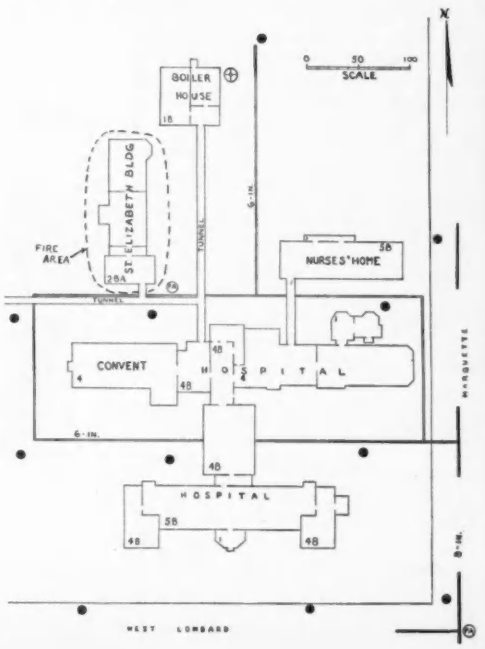
In the absence of automatic fire detection equipment, the fire obviously gained great headway before an alarm was given from the central switch board located in another building of the hospital group. The one attendant on duty in the building died in the fire. The fact that the fire had spread extensively by the time the fire department arrived indicates that there was delay in discovery, or delay in giving the alarm.

A fire alarm box near the entrance of the burning building was not used, but a telephone alarm received at 2:06 A.M. was treated as a box alarm, bringing three pumpers, two aerial ladders and an assistant chief. The nearest pumper was three quarters of a mile distant from the hospital which was located on the northern edge of the residential district. First alarm ladder trucks had to respond approximately two miles each, and other first alarm companies also had runs of several miles. The Assistant Chief radioed a second alarm within four minutes calling three more pumpers and another aerial ladder. These companies also had extremely long runs.

(*Continued on page 26*)

Left: Diagram showing the arrangement of the main floor according to information available. Fire is believed to have started at cross indicated. Right: St. Elizabeth's Building in relation to other buildings of the hospital group.





Fires in the News

← **Rock Island, Ill. Dec. 11**
This Sunday evening fire had great headway on the third floor of the Central Junior High School when discovered. Fire spread rapidly through open stairwell and involved entire building. Help responded from Moline, Rock Island Arsenal, Silvis, Milan, and Davenport, Iowa. Two nearby schools were damaged. Loss: $600,000 (*Clyde Hinchcliffe*)

Winston-Salem, N. C. Jan. 10 →
Basement fire in furniture store had great headway before detected by outsider shortly after midnight. Fire extended to third floor and to adjoining building through unprotected doorway in a wall. Loss: $255,000 (*Journal Sentinel*)

← **Cleveland, Ohio. Dec. 18**
Fire destroyed the ancient central market building, two stories high, 390 ft. long of frame construction. Firemen responding at night faced smoke explosion when making entry. One pumper was destroyed and two damaged. 30 hose streams were used. Loss: $400,000. (*Acme*)

Dayton, Ohio. Jan. 6 →
Fire in basement locker room of cafeteria considered hoax when first reported by employee, gained great headway in unventilated basement, eventually involved entire building. Loss: $291,000. (*Acme*)

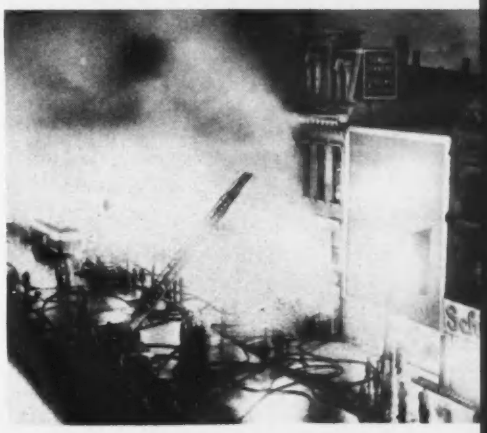
← **Dallas, Texas. Jan. 15**
Some 20 firemen were overcome by smoke from this 4-alarm in the second floor of the H. L. Green Company Department Store. Loss estimated: $300,000. (*Acme*)

Fullerton, Calif. Jan. 3 →
Fire destroyed a fruit packing plant, a juice extractor factory, 3 garages and a dwelling. Fire was through the roof when firemen arrived. Loss: $250,000. (*Acme*)

← **Stoughton, Mass. Dec. 2**
Fire destroyed a wood frame warehouse of this plant manufacturing jewelry display boxes. A company executive died trying to warn employees. Automatic sprinklers assisted firemen in saving mainplant. Loss estimated $75,000. (*Wide World*)

Binghamton, N. Y. Dec. 6 →
Fire starting on rear porch spread through this apartment block as alarm was delayed by persons thinking alarm was in. Loss estimated: $135,000 (*Acme*)

←
West Pierrepont, N. Y. Dec. 28
Fire started in milk room of this large dairy and hay barn, possibly from electrical wiring defect, gained headway as tenants were away. Volunteer firemen made long run over hilly country to save house and shed with booster lines. Loss: $7,500. (*Howard J. Jebo*)



Super Markets and Suburban Shopping Centers

by Warren Y. Kimball

From an address given at the Fire Department Instructors Conference, Memphis, Tennessee, January 13, 1950.

THE term "super" is a good American word made notable by Hollywood. Super in size, super in value means simply super fires and super losses. The super market is fast replacing the corner store because large volume means lower prices. You can drive to the super market in the family car once or twice a week and you can see what you are getting rather than being left at the mercy of the grocer. Actually what these super markets amount to from a fire fighting point of view is a huge walled area filled with combustible stocks and usually of substantially combustible roof and ceiling construction. It is something like putting a lumber yard inside of a brick wall and then inviting customers to come in in great numbers to pick out their stock. There is definitely a life hazard.

Because the super market or shopping center is of necessity convenient to residential areas, it is usual that fire department apparatus and manpower immediately available will be inadequate for the risk. This is also true of many church fires and school fires located in residential districts where fire company manning particularly in the daytime may be quite low and response to alarms is in no way comparable to that in high-value districts where a dozen pieces of apparatus may be assigned on first alarms. It is quite common for the super market or shopping center to have a parking lot in front or at the rear and the location of building and parking lot may be such as to keep the apparatus back some distance from the entrances thus delaying fire fighting operations. Fire departments in their inspection program should note where hydrants are located, should test the flows, not merely with a gauge, but by making fire stream layouts to find out how many adequate or effective streams are possible at the location. In general, it may be expected that fire flows will be far less than desirable for a hazard of this magnitude because large mains may not be found in the residential and outlying areas. It may be possible to use various auxiliary water sources and the fire department must make sure that approaches are unobstructed and there are facilities for taking suction.

Construction

The shopping centers or super markets are not constructed with fire protection in mind and probably will not be, until some major loss of life has happened. This has been true of other occupancies such as theaters, schools and night clubs where great fire disasters have brought necessary changes in design to insure safety. In the case of shopping centers, it is often very difficult to obtain correction of structural deficiencies and hazards because frequently the store chain operating the market does not own the building. It is often hard to get the owners interested. The store management cannot kick very much or it may lose a choice location. Usually the ownership of the store chain is at some other out-of-town location such as New York and the local manager is not always a highly paid individual with training to compel safety against the interests of building owners. Also some large chains are self-insured. They may write off potential fire losses in the cost of the goods they sell. Such losses may merely represent a fraction of a cent of each item that you pick up off of a counter.

Large areas mean large losses as NFPA has pointed out again and again. Large roof spans introduce the danger of collapse during fire. Fire officers should give some attention to the design of trusses and how they are supported so as to avoid being trapped during a fire fighting operation. Failure may come much earlier than would normally be expected. Frequently there is a basement area with substantial amounts of goods in storage in combustible cartons and packages.

One of the greatest defects in the design of shopping centers or super markets is the combustible wall board finish and ceiling that too often is employed. Where such wall board has a surface that invites rapid spread of fire or heavy smoke it may introduce a life hazard in places where large numbers of persons congregate and where exit facilities may not be of the best. Every fire department officer should read Mr. Robert S. Moulton's article in the October NFPA QUARTERLY on the subject of combustible fibreboards and their effect on life safety. This important item has been reprinted and can be obtained from the NFPA.

Entrance to the basement may not always be convenient for fire fighting operations. Another hazard is the common use of ceiling space for ventilation. While super markets are usually one-story buildings, they may be located in old buildings that have been remodeled. One tendency is to provide a combustible dropped ceiling supported on a lattice work of small wood members which would contribute to the rapid spread of fire and which would readily fall once a fire has entered the ceiling space. If there are apartments above a super market, the life hazard is substantially increased and fire departments must give special attention to the rescue operations. The problem of high metal ceilings, where employed also can be extremely troublesome. In some installations there are unprotected light steel trusses or concealed wooden joists that must be taken into account.

Life Hazard

Most fire departments are so concerned with their desire to "make a good stop" that they are apt to forget that life hazard is the number one problem of fire fighting. This is more than true in the case of super markets where an area of 10,000 square feet may be substantially enclosed, with exits (as well as entrance for hose lines) obstructed by toll gates for making payment. Experience in fires which have occurred, fortunately mostly when the stores were not crowded, indicates that concealed fire may be expected to involve the ceiling space to a dangerous degree before it is detected. Panic, particularly among women and children shoppers, often women with infants in carriages, is a major life hazard. The lack of exit openings is particularly serious, even where there are one or two emergency exits at the back of the store. These are frequently found locked as the management fears persons will escape without paying. Exits are seldom well marked and women who have habitually used the same entrance may not be expected to know where the emergency exits are located. A fire in the recreation center and A. & P. Super Market at Providence, Rhode Island, on the evening of November 13, 1947, provides an excellent illustration of the type of life hazard involved. This huge structure was formerly a streetcar barn and had been converted into a recreation center including steak house, liquor store, bowling alleys and super market. Fortunately there were plenty of exits when grease from a kitchen oven caused fire which spread through the combustible roof space, unknown to occupants of the building until the combustible wall board ceiling fell on their heads and necks. Thirty-nine persons received burns while escaping. Fortunately no lives were lost in this $600,000 fire, perhaps largely because the super market area was not filled with customers at the time.

It is not an unusual trait for management to place chains and padlocks on the exit gates or cashier gates that are not in use. It is one which fire departments must discourage. This is often a thoughtless procedure. Fire officers testify that sometimes when they mention this to management, the store officials confess that they never thought of the life

hazard. In other cases there are regular turnstiles which would seriously hamper exits in an emergency, particularly if the lights fail. Of course, it is imperative that super markets be provided with emergency lighting systems. This brings to mind the important suggestion that exits should be marked and lighted in accordance with the NFPA Building Exits Code.

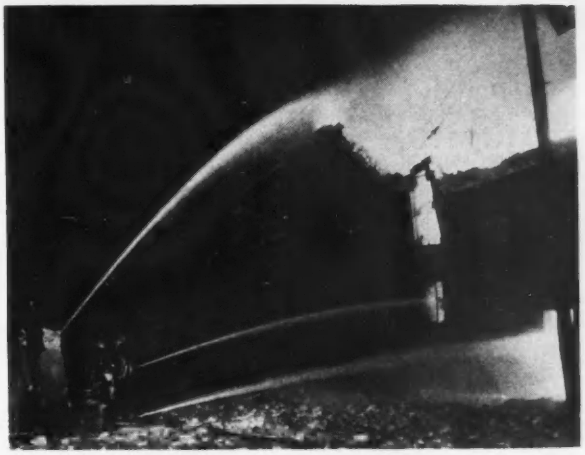
Detection of Alarm Facilities

In most of the super market fires on record in the NFPA Department of Fire Record, there were no automatic fire protection or detection systems such as should be required in such serious risks. Fire departments on their part should make sure that the normal first alarm assignment is adequate for the hazard. If the market is in a residential location bringing a response of only one or two engine companies, special assignments should be made to bring the full response that would be obtained for a downtown fire. In other words, assignment of apparatus should be for risk and not for the street location. Mutual aid should be prompt and adequate. In several fires the outside help was not called in time to be an important factor. The fire records show that most of the fires to date have occurred when the stores were unoccupied. This is fortunate from a life hazard point of view, but has resulted in staggeringly large losses. It is not unusual for these individual fires to exceed one-half million dollars. As the stores often have no watch service at all, it is imperative that automatic fire detection be provided so that the fires may be caught when they are very small. Otherwise a total loss is very likely. The fire department should not fool itself into thinking that by superhuman effort and courage alone, it can extinguish a super market fire once it has possession of a building. It just can't be done.

Inspection and Fire Causes

Place the shopping center or super market high on your priority for local inspections. Try to impress upon the management that you are concerned with the fire and life hazard and want them to be. There may be a moral hazard. Frequent inspection will show the management that the fire department is concerned and is watching. Inspect with the whole fire department or the whole first alarm assignment on occasion, as this gives practical experience in prefire planning. It is particularly important in the case of volunteer fire departments where it is not certain which members will be on hand during the initial stages of a fire. The important point is that the super market fire is one that must be fought before it starts.

Your prefire planning must include what the Buffalo Fire Department calls "a reconnaissance in force." Fire companies must determine means of access to the property; how they would make their layouts from the nearest hydrants or water supply; what exposures are involved because a big super market fire may endanger the entire neighborhood; how the property can be ventilated, particularly without danger to the fire fighters from possible roof collapse. Blowers and ventilating equipment that may affect the spread of fire must be noted. It is also necessary to note whether fans are equipped with shutoffs that can be operated by the fire department or are automatically controlled. The possibility of heater room or stock room fires should be taken into consideration. Note whether the structure layout is such as to localize these fires. Again the life hazard must not be overlooked. It may be possible to assign hydrants to different companies to make actual hose layouts at company drills held perhaps on a Sunday or holiday. However, it may be impossible to prevent heavy losses once a fire starts. One of the important factors is to look for windows and openings through which hose streams can be applied. You may be very much disappointed, because frequently all wall openings other than the front entrance are completely closed with brick or glass bricks. Heavy streams may be required for long range to reach deep into the building, but even there there are frequently obstructions. In many cases the storeroom occupies a circumference of the building with a shopping area in the center. High caliber fog nozzles may be of help in preventing a loss of the roof structure.



Recreation center and super market fire in Providence, R. I. Fire starting at kitchen range spread through roof space. Thirty-nine persons in bowling alley received burns when combustible ceiling fell.

Common and Special Hazards

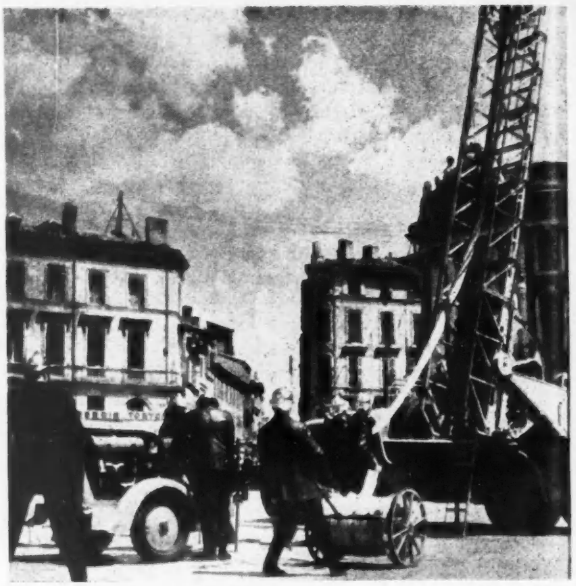
It is shown by the fire record that storage rooms, particularly basement storage or stock rooms, are an extreme fire hazard because frequently they are of such large area and so difficult of access that the fire department can expect little success in coping with a fire that has passed incipient stages. Unfortunately automatic sprinklers are very seldom found in these locations although they should be mandatory. Quite frequently in suburban communities there are two or three super markets sometimes of rival chains. It is not unusual for heavy stocks to be carried in the basement storerooms so as to relieve dependence upon metropolitan warehouses in the larger cities.

Other common hazards that the fire department must note are methods of rubbish disposal and its frequency, construction and location of incinerators, air conditioning systems and vent openings which may open into concealed spaces. We noted at one store that the incinerator was located back of the store and there were vent openings into the attic space that were attracting smoke and sparks from the incinerator. A very common hazard is smoking in storage areas, even where supposedly it is prohibited. Employees may work late nights in handling stock and there is always a temptation to smoke.

Attention should be given to the type of fuel that is used and whether it is properly stored and handled in accordance with good fire protection practices. One of the major hazards is electrical equipment in its various forms. There are apt to be a large number of fluorescent light fixtures. Firemen, of course, are familiar with the beryllium hazard in broken fluorescent lamp tubes, but frequently these fixtures are located against combustible ceilings where breakdown of electrical equipment may start a fire. Electric motors will be found in considerable number in shopping centers and unless maintained with care and regularity, may be expected to cause fires. There are also a number of refrigeration units which not only contribute irritating gases in a fire but are frequently causes of fire. Another special hazard is the fruit ripening equipment that is sometimes found. This equipment if installed according to regulations should be reasonably safe, but it does present an ethylene gas explosion hazard if equipment is defective and not properly maintained.

(Continued on page 24)

In France there are 14,876 corps of fire fighters and 300,000 firemen. The map shows the number of corps in the various provinces.



French Sapeurs-Pompiers (fire fighters) extend linen hose up turntable ladder in demonstration. Note portable pump and hose reel.

Fire Departments and Civil Protection in France

ONE can count on the French to be logical. In France, civil protection or civil defense, is a part of the national organization of fire departments. They recognize fire as the dominating factor in the problem while here in the U. S., fire defense is put in a subsidiary position in national plans for civil defense as well as in state and local organization. The civil protection program in France is headed by Colonel J. Maruelle, formerly chief of the Paris Fire Brigade.

France has some 300,000 firemen and 14,876 fire departments or "corps de sapeurs-pompiers." These figures are given in the French magazine *Le Feu* by its editor, Captain Charles Laurent, from whose account we have the following information about the recent fire department developments in that country. The corps de sapeurs-pompiers in two cities, Paris and Marseille, are military organizations. Together, they have 4500 men. There are 3,000 professional (full-time) firemen in other important cities and 7,000 permanent firemen who are not full-time firemen but are mostly municipal employees. The largest group of firemen in France, as in this country and elsewhere, are volunteers — some 275,000 men. This is about the same number of firemen as in New York State (population 14,000,000) France has 42,000,000 population, so it can be estimated that there are, proportionately, about one third as many firemen as in a typical U. S. state.

France considers itself a single state. It is most accurate to think of it as such and compare it to a large state in the U. S., rather than to the Federal United States. It is divided into administrative divisions, roughly, like counties in a U. S. state or Canadian province. These are known as "departments," are headed by an administrative officer, known as the Prefect. To avoid a confusion of terms, these divisions will be referred to as "prefectures." One small prefecture, Corsica, an island in the Mediterranean, has 9 corps de sapeurs-pompiers; Marne, a large prefecture in the north and east, has 584. The other 88 prefectures have numbers of corps in between these figures totaling 14,876 corps (local fire departments). *La Fédréation Nationale des Sapeurs-Pompiers Français* (The National Federation of French Firemen) considers that too many of these are equipped only with hand pumps and a modernization program is being pushed.

Direction of Fire Departments by the State

Under an 1884 law, mayors of cities were empowered to provide a fire department for their cities if one was felt to be needed. An exception was Paris where the fire department was a military unit. Captain Laurent gives the impression that local fire department arrangements left much to be desired. Typical fire department shortcomings were disclosed by a fire in the New Galleries department store of Marseille which resulted in a 1938 decree authorizing the Minister of the Interior to reorganize local fire departments in certain cases. Since 1925 the Minister of the Interior has had some control of the local fire departments since he could nominate the officers. The 1938 decree allowed him to use officers of the *Regiment de Sapeurs-Pompiers* (the Paris fire department) as inspectors of local fire departments. A 1941 decree gave him a Central Safety Commission empowered to give fire protection advice.

Neither of these worked very well, although the Marseille Fire Department in 1939 was reorganized, like that of Paris, as a military fire department.

As a result of wartime air raids, a general Office of Civil Protection, including duties of both passive defense and fire protection, was set up by a 1943 law. This is under the direction of the Minister of the Interior and handled by the branch of his office which is in charge of local administration of the 90 prefectures of France and the municipalities.

A Fire Department for Each Major Prefecture

Under the 1943 law the Minister of the Interior has been able to make good progress in requiring that each of the prefectures have a regional fire department organization. He has done this by requiring each of the prefectures to provide a central fire headquarters and a training center. There is a prefectural inspector of fire services who is responsible to the Minister of the Interior to see that the local fire organizations are in line with the plans of the Minister. The Minister names the chief fire officer in each of the 90 prefectures. The officers of local fire departments are in

turn named by the Prefect, as is the chief regional official.

What this means is that there is organization from the central state administration reaching all the way down to the local fire station. There is a chain of command and machinery for re-enforcement through the regional headquarters. Through the work of the inspector-general and prefectural inspectors, standards are maintained and uniformity of operations is promoted.

By the end of the war 30 of the 90 prefectures of France had an approved regional fire department organization and currently all except four have accepted the program prescribed by the Minister of the Interior. It may therefore be said that the fire departments in France are substantially all parts of a single statewide fire department organization.

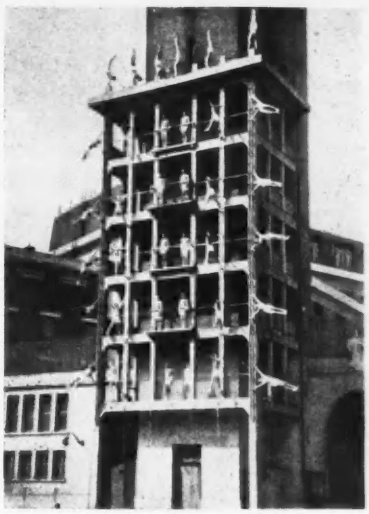
Firemen and the Fire Service

Captain Laurent observes that the laws applying to fire department service in France still leave a good deal to be desired, particularly from the point of view of the professional firemen. His comments almost exactly parallel strong sentiments which are held by many firemen in the U. S. and elsewhere. Although it has been necessary (as a measure of civil defense) to set up strong regional fire services and to give firemen an important responsibility in peacetime and wartime fire defense, these responsibilities have not been matched by a satisfactory personal status for the professional firemen. Firemen are not exempted from military obligations and the result of this would be that at the very time that the fire services most need to be reinforced they would be disorganized by loss of key personnel. This does not increase the attractiveness of the fire services to young men and it is a barrier to successfully recruiting new personnel.

State Fire Staff

In 1946 the Office of Civil Protection had a personnel of 93. This has been progressively reduced to only 39. The Office of Civil Protection is still a part of the Office of Departmental and Local Administration of the Minister of the Interior but it is a relatively subordinate office. It includes (*a*) an inspector general, (*b*) a bureau of personnel and welfare, (*c*) a technical service covering equipment, prevention of fire, statistics, works and a special service "Z," (*d*) a center for instruction in civil protection, (*e*) a bureau dealing with passive defense or civil defense and (*f*) the Superior Council on Civil Protection. This central body is successfully performing a good many of the functions which would be necessary in any state fire staff. The work of the inspector-general has been successful in setting up the regional fire department headquarters and organizations throughout practically all of France.

Six section turntable ladder.



French firemen go strong for physical training. Exhibition on Paris drill tower.

A Bureau of Statistics has established a comprehensive system for receiving and classifying reports on fires and other disasters.

A national center of instruction for firemen was established in November 1946. It is designed to provide professional instruction for the inspectors who operate under the inspector-general and for chiefs of fire departments and fire department officers. Courses in fire prevention work are provided for the inspectors and assistant inspectors.

French fire departments have always placed considerable emphasis on physical education. A firemen's athletic meet was held in 1947 and 1948.

Technical studies are being undertaken for the improvement of fire alarm facilities and the development of radio communication. A center is to be reestablished for the treatment of persons suffocated or poisoned by gas.

Progress is being made in the establishing of official rules for fire prevention and fire extinguishment. The Minister of the Interior is coordinating his activities in connection with those of other departments of the state. One interesting effort is cooperation with the technical group of insurance companies in order to make the official regulations and insurance requirements consistent.

Equipment

One of the functions of the Office of Civil Protection is to consult with municipalities about fire-fighting equipment and to promote standardization. Equipment is still largely a matter for the local municipalities but considerable standardization was undertaken during the war by the Office of Civil Protection.

Standardization of equipment is enforced through grants-in-aid paid by the central government to the local authorities to help defray the cost of fire apparatus. Under an 1898 law a special insurance tax has been collected, designed to obtain funds for this purpose but, as a matter of fact, the central government has kept the bulk of the receipts from this tax source and has not made these funds available to the local fire services. The present grants-in-aid program is currently using larger amounts from the central government funds.

Approximately 700 new motor vehicles, roughly corresponding to American hose wagons, are being provided and an approximate equal number of trailer pumpers. It is probable that even these numbers fall considerably short of what is needed. Part of the supply of hose wagons will be obtained by converting U. S. Army war surplus 4 x 4 Dodge trucks. The trailer pumps are mostly small capacity, 268 and 134 gallons per minute capacity, respectively. The professional firemen favor larger pumping units but the larger pump units are only being provided in a few cases for the principal cities. A small number of water tank wagons, each carrying about 1000 gallons of water and with a small pump, are being provided.

The hose wagons carry short ladders. The longer ladders, 59 and 78 feet in length, follow French and British practice of being put together as a separate piece of apparatus. The French call these "portable" ladders and the English call them "escapes." They are mounted on wheels, allowing them to be moved by hand. A few new aerial ladders are being provided, mostly 78 feet in length. These are mounted on automobiles, are in short sections which may be mechanically extended.

FOR SALE

1937 Model White Chassis with U-40 Barton front-mount centrifugal pump. 150-gal. booster tank. 150-ft. booster hose. Hose body will carry 1000 ft. of 2½-in. hose. Other standard equipment such as suction hose, axes, etc., included. Priced reasonable.

Waynesburg Volunteer Fire Company
Waynesburg, Pennsylvania

The North Muskegon Volunteer Fire Department

By Chief Ed Klecka, Jr.

THE North Muskegon Volunteer Fire Department was organized in July, 1885, with the purchase of the old fire station property. First equipment authorized by the Council was two hand drawn hose carts, each manned by a company of fifteen men stationed at either end of the town. Capt. William Thornton commanded No. 1 Hose Company while No. 2 Hose Company was under the leadership of Capt. Robert Hay. The volunteer firemen were paid $1.00 for the first hour at a fire and fifty cents an hour for each succeeding hour.

The first companies were remarkably efficient as is indicated by a trial run made by Hose Company No. 2. In one minute and twenty-eight seconds the company got out its cart, ran with it one block and laid 300 feet of hose. In answer to an alarm the same company ran four blocks and was playing a stream of water on the fire in four and one-half minutes.

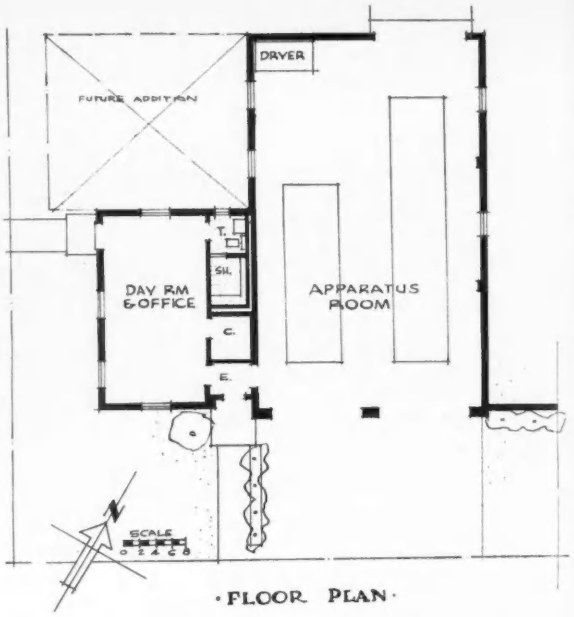
Late in the year of 1885, under authorization by the Council, a contract was let for the installation of a city fire alarm system. The system equipped with batteries required two miles of wire and had six call boxes.

The North Muskegon Volunteer Fire Department was enlarged to three companies in July of 1889. Five hundred feet of hose and another hose cart were purchased. The forty-six men in the department were battle tested on November 5, 1889 when the Hovey and McCracken Mill and Lumber Company and the Hitchcock and Merman Grays docks and stocks of lumber and shingles were badly damaged in a terrific conflagration that required the help of Muskegon steam fire engine "Pioneer."

Cost of maintaining the Volunteer Fire Department became controversial at a council meeting December 6, 1889 with a warm discussion about disbanding the fire department. Some of the citizens had a strong suspicion that many fires, other than a few large ones at the mills, were set by the fire department when the men were in need of cash. In later years there was considerable talk of how some of the fires occurred just before there was to be a dance or party. Money was scarce and the suspicion was that the fires were set to enable the men to collect fees for fighting them.

Fires that destroyed saw mills and the depletion of the huge stands of pine as the lumbering era moved towards its end found the city in financial difficulty. There was no money to maintain the department. The fire station became a dilapidated abandoned building. Stray cows used it for a stable. Finally the station became a carpenter shop.

In 1908 a group of young men formed a North Muskegon baseball team. The City Council gave the team permission to use the building for dances and other entertainment. The



· FLOOR PLAN ·

baseball team became the Volunteer Fire Department and with the ambition and vigor of youth renovated the building. In addition to a new floor and a new front door, a shed was built on the west side to house the department's sole piece of equipment, a hose cart. This shed housed the North Muskegon Fire Department until the new station was completed in 1949. In fact, the building served as both a fire department and city hall until 1948 when the new city hall was ready for occupancy.

The 1922 department featured a sparkling new hand drawn hose cart with a chemical tank. A model T pick-up truck provided the motive power to pull the cart to fire. This equipment served until 1925 when the Council authorized the purchase of a new fire truck from the Howe Apparatus Company. The new truck was delivered to the city at noon, Monday, September 14, 1925 and the old hand drawn hose cart was discarded.

The old bell alarm was discarded in 1928 and replaced with a 3½ h.p. siren. The change was made at the suggestion of Michigan Inspection Bureau to avoid higher insurance rates because the old bell was not adequate to summon the volunteer firemen.

The department's first motorized equipment was sold to the Village of Hillman in 1936 after eleven years of service. It was replaced with a new 500 gallon pumper which is our present equipment. With water being supplied by the City of Muskegon, good fire protection in the city of North Muskegon at last became a reality.

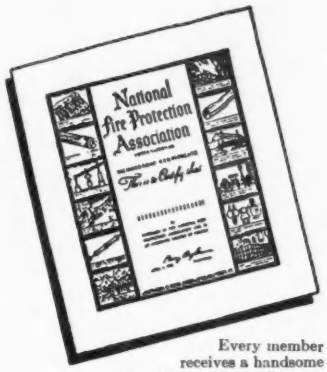
Today the North Muskegon fire department equipment consists of one 500-gallon per minute rotary midship pump mounted on a 1936 Reo chassis, with a 250-gallon booster tank; 300 feet of ¾-in. booster line; 300 feet of 1½-in hose; 1400 feet of 2½-in. hose; a 40 ft. three-section aluminum ladder, one OCD trailer pump complete; one 300 gpm auxiliary pump to supply water to the truck if we have to pump water from the lake or river; one Circul-Air hose drier; two Chemox self contained gas masks; and two all purpose gas masks.

The North Muskegon Fire Department now has eighteen members as compared with six in 1941. Members are paid $2.25 for the first hour at a fire and $1.00 for each succeeding hour. Drills are held twice a month and members are paid $1.00 for attending the drills. The only full time member of the department is the Chief of the department. Three-quarters of his salary is paid for police duty and the balance for fire duty.

(*Continued on page 33*)

Volunteer Fire Company Section of NFPA

Membership in the NFPA Fire Company Section costs $12.50 per year. This includes 10 subscriptions to FIREMEN. Additional fire fighters may be enrolled to receive FIREMEN at $1.25 each. Other NFPA members will be sent FIREMEN on request.



Every member receives a handsome membership certificate illustrating the history of fire protection.

THE number of members in the Fire Company Section of the National Fire Protection Association has now increased to 21,089 men in the 1,411 enrolled companies and departments. This month there are sixteen new member companies in the Section. They are:

Choteau Vol. Fire Dept., Choteau, Mont.
Elizabeth Fire Dept., Elizabeth, W. Va.
Garden City Vol. Fire Dept., Garden City, Kan.
Gate City Fire Dept., Glendive, Mont.
Kenmore Vol. Fire Dept., Kenmore, N. Y.
Laconia Permanent Firemen's Assn., Laconia, N. H.
Lakeville Fire Dept., Lakeville, Ind.
Mitchel Air Force Base Fire Dept., Hempstead, N. Y.
Noble Twp. Vol. Fire Dept., Union Mills, Ind.
North Beach Vol. Fire Dept., Inc., North Beach, Md.
Riverside Fire Co., No. 1, Riverside, N. J.
Riverside Fire Dept., Riverside, Ont.
Watsontown Fire Co., No. 1, Watsontown, N. J.
White Bluff Fire Dept., Richland, Wash.
Winthrop Harbor Vol. Fire Dept., Winthrop Harbor, Ill.
Woodbridge Vol. Fire Dept., Woodbridge, Ont.

FIRE COMPANY SECTION MEMBERSHIP
($12.50 annual dues) Eligible:

(1) all fire departments and companies in communities of less than 25,000 population.

(2) all bona fide volunteer fire organizations in any community.

(3) all industrial fire brigades.

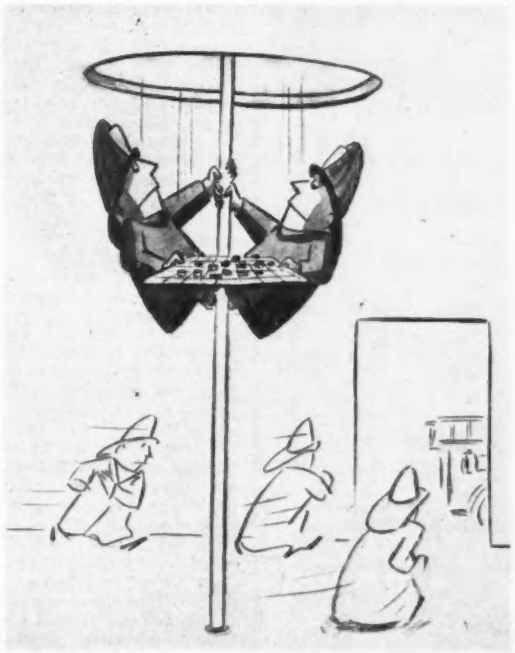
Member companies receive ten copies of FIREMEN magazine each month, mailed to the homes of individual firemen. Beyond the ten, additional copies of FIREMEN cost $1.25 per year.

Fire Company Section members receive at their headquarters, one copy of all publications sent to NFPA individual associate members.

INDIVIDUAL ASSOCIATE MEMBERSHIP
($12.50 annual dues) Eligible:

Individual fire departments, officers, firemen, and others interested in fire safety. NFPA associate members in the fire service receive: one copy of FIREMEN magazine monthly, the NFPA Quarterly, the monthly Fire News, technical standards, popular bulletins and posters.

All associate members have one vote in Association affairs.



Monroe Leung

Expander
CHIMNEY SCRAPER

A low cost all steel tool

FOR PREVENTING CHIMNEY FIRES AND FOR IMPROVING CHIMNEY DRAFT

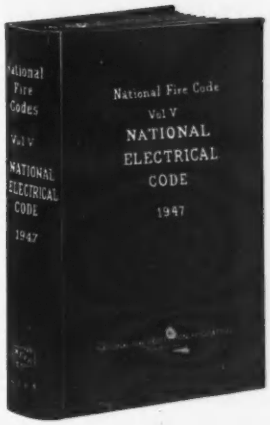
Every fire department and every farmer should have an EXPANDER CHIMNEY SCRAPER *and use it often*

For details and quotations write to

LUVERNE FIRE APPARATUS CO.
Luverne, Minnesota

Manufacturers of Fire Truck Equipment Since 1912

NATIONAL FIRE CODES
Vol. V



National Electrical Code

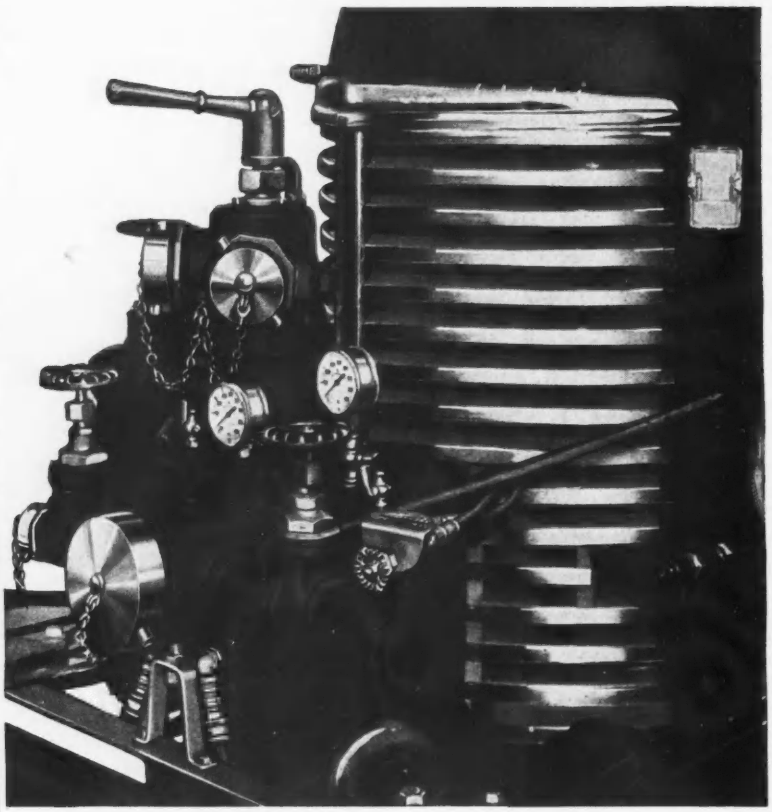
Size 6" x 9", printed in large type, red cloth binding. Includes 1949 revisions with all official interpretations up to June 1949.

Price $3.00 per copy

National Fire Protection Assn.
60 Batterymarch St., Boston 10, Mass.

Our latest achievement!

BARTON-AMERICAN MODEL UA



A NEW ADDITION TO OUR LINE WITH THESE OUTSTANDING FEATURES!

- Pump is frost proofed in winter, additional engine cooling in summer.
- Heavy duty transmission to match ever increasing engine horsepowers.
- New Dual Universal Joint — Spline Shaft Power Take-Off.
- Meets all Underwriters' requirements as to capacities and pressures.
- Especially designed for high pressure fog gun service.
- Positive priming with the frost proof Barton-American Vacuum Primer.

By the Manufacturer of the Original Front Mounted Pump

For Additional Information Write for Bulletin 8330-F

AMERICAN-MARSH PUMPS

BATTLE CREEK, MICH.

IN CANADA:
C. E. HICKEY & SONS, LTD.
HAMILTON, ONTARIO

U. S. Treasury Frowns on Proposal to Make Contributions to Volunteer Fire Companies Tax Exempt

HOUSE BILL 1822 intended to make contributions to volunteer fire companies deductible for income tax purposes is cooling off in a pigeon-hole of the powerful House Ways and Means Committee after an adverse report by the U. S. Treasury. Nevertheless, a recent decision by the U. S. Tax court (Smith, Docket No. 21930) has ruled that a gift to a volunteer fire company is a charitable contribution and that contributions to their support qualify as tax deductions under the law. The court ruled that volunteer groups perform public services for the benefit of all the people, and in a broad sense, may be considered as "charitable organizations."

Bill 1822, introduced last year by Representative J. Caleb Boggs of Delaware (sponsor of the Volunteer Firemen commemorative postage stamp) was intended to encourage contributions in support of bona fide volunteer fire fighting organizations by making such contributions deductible from income tax. The Treasury Department letter pointed out that where contributions and funds received by volunteer fire companies are administered and controlled by a municipality, such funds are deductible. The Treasury letter added, however:

"This Department recognizes that volunteer fire companies serve an important function, normally regarded as an essential activity of government, in areas where fire protection has not been provided. However, it has long been the policy of the law generally to limit the deduction of contributions for exclusively public purposes to those contributions made to funds controlled by a government or instrumentality thereof, and to permit the deductions of contributions to other organizations only where such organizations are being operated exclusively for religious, charitable, scientific, literary, or educational purposes, or for the prevention of cruelty to children or animals. Accordingly, the proposed legislation would allow the deduction of contributions in an area which is not within the policy of the present law.

"It may be anticipated that enactment of the proposed legislation would lead to demands for similar treatment for contributions to a variety of other civic leagues and organizations organized and operated for the promotion of social welfare. . . . No basis is seen for distinguishing volunteer fire companies from these and many other non-governmental organizations, not exclusively religious, charitable, or educational, seeking the attainment of public welfare objectives.

"Another factor to be considered in connection with the proposed legislation is that some so-called volunteer fire companies are purely social organizations, and a large number serve both a public and a social function. . . . Difficulties would arise, however, where the volunteer fire company serves, in varying degrees, both a public and a social function, and in these circumstances it would frequently be difficult to detect and prevent abuses of the proposed deduction.

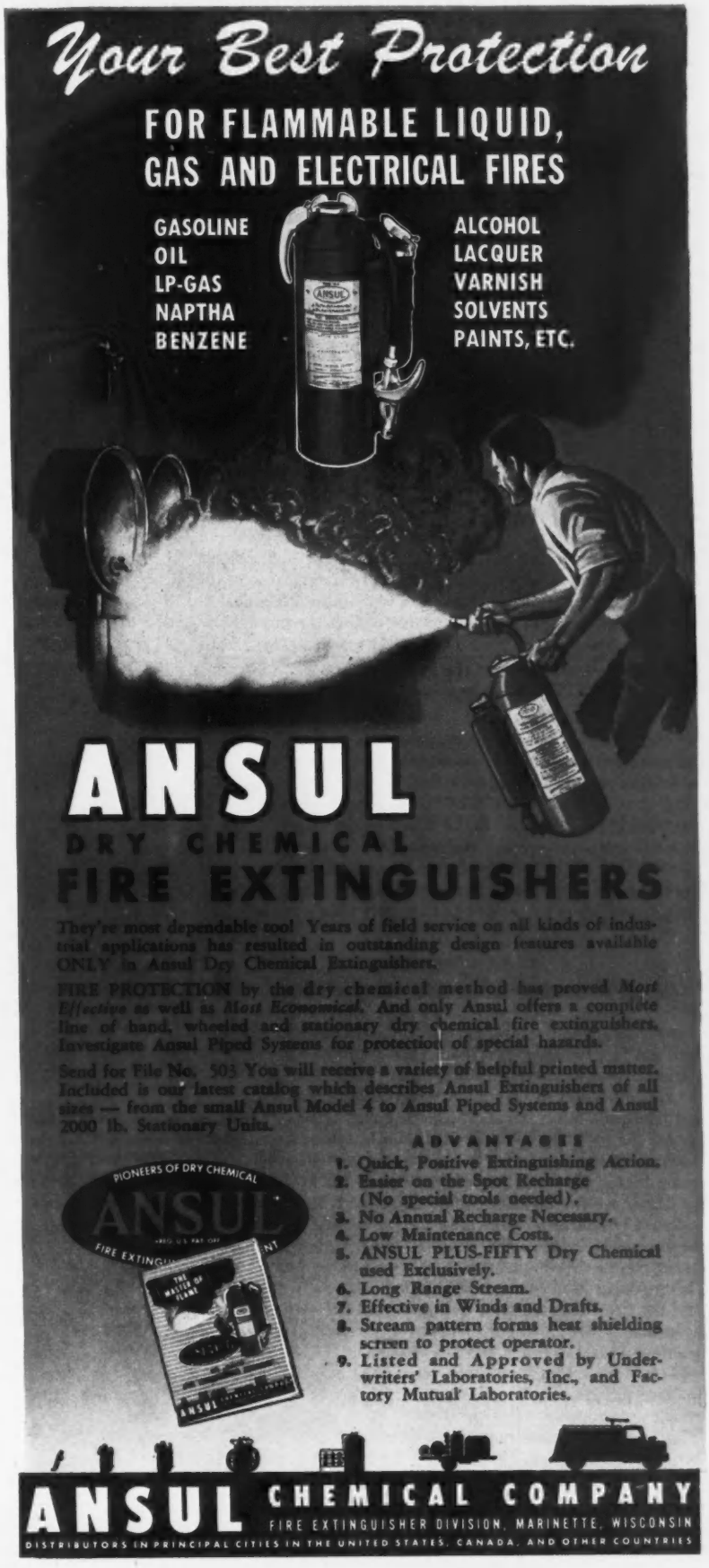
"It would seem in the light of the foregoing, that the better approach to the problem of according a deduction for contributions to private volunteer fire companies lies in the direction of encouraging such companies to acquire status as State or municipal instrumentalities. Under such circumstances individual and corporate contributions to volunteer fire companies would be deductible under the present provisions of the code and at the same time the supervision to which these fire companies would then be subjected by the State or local government would afford greater assurance that a deduction would be obtained only for contributions to an organization operated exclusively for the benefit of the public."

Representative Boggs in responding to the Treasury Department letter pointed out to Chairman Doughton of the House Ways and Means Committee that it would be easy to determine which fire companies are fire fighting organizations and which are social organizations by requiring a certificate from the governor of the state in which the fire company is located. He also points out because fire company funds are not exempt, many persons may make their contributions to tax exempt charities rather than to fire protection, also that the insistence that all volunteer fire companies be under control of governmental agencies would greatly increase the tax load on many communities now receiving volunteer service. He also recalls that federal property including post offices and court houses throughout the land are receiving tax free fire protection by hundreds of volunteer fire departments.

Mr. Boggs called the attention of the House of Representatives to the fact that eight volunteer firemen were injured fighting a $150,000 fire at the U. S. Department of Agriculture Research Center at Beltsville, Maryland, and that the government loss would have been much greater but for the work of nine volunteer fire companies dependent upon volunteer contributions from individuals and business enterprises which at present are not deductible for income tax purposes.

Other phases of the problem not settled are that non-incorporated volunteer fire companies have to pay substantial excise taxes on such items as trucks, gasoline, oil, tires, for which governmentally owned fire companies are exempt. Also, funds raised by such independent volunteer companies through shows and other entertainments apparently remain taxable on the same basis as funds raised by private non-governmental organizations or individuals.

Any fire department interested in the problem of exemption from U. S. taxes should write either to Representative Boggs, or to Chairman Robert L. Doughton, Committee on Ways and Means, House of Representatives, Washington 25, D. C.


Your Best Protection
FOR FLAMMABLE LIQUID, GAS AND ELECTRICAL FIRES
GASOLINE
OIL
LP-GAS
NAPTHA
BENZENE
ALCOHOL
LACQUER
VARNISH
SOLVENTS
PAINTS, ETC.
ANSUL
DRY CHEMICAL
FIRE EXTINGUISHERS
They're most dependable too! Years of field service on all kinds of industrial applications has resulted in outstanding design features available ONLY in Ansul Dry Chemical Extinguishers.
FIRE PROTECTION by the dry chemical method has proved Most Effective as well as Most Economical. And only Ansul offers a complete line of hand, wheeled and stationary dry chemical fire extinguishers. Investigate Ansul Piped Systems for protection of special hazards.
Send for File No. 503 You will receive a variety of helpful printed matter. Included is our latest catalog which describes Ansul Extinguishers of all sizes — from the small Ansul Model 4 to Ansul Piped Systems and Ansul 2000 lb. Stationary Units.
PIONEERS OF DRY CHEMICAL
ANSUL
FIRE EXTINGUISHMENT
THE MASTER OF FLAME
ANSUL
ADVANTAGES
1. Quick, Positive Extinguishing Action.
2. Easier on the Spot Recharge (No special tools needed).
3. No Annual Recharge Necessary.
4. Low Maintenance Costs.
5. ANSUL PLUS-FIFTY Dry Chemical used Exclusively.
6. Long Range Stream.
7. Effective in Winds and Drafts.
8. Stream pattern forms heat shielding screen to protect operator.
9. Listed and Approved by Underwriters' Laboratories, Inc., and Factory Mutual Laboratories.
ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION, MARINETTE, WISCONSIN
DISTRIBUTORS IN PRINCIPAL CITIES IN THE UNITED STATES, CANADA, AND OTHER COUNTRIES

Super Markets and Suburban Shopping Centers

(*Continued from page 17*)

Private Fire Protection

Unfortunately, private fire protection is largely non-existant in the super markets with which we are familiar. Most have just a few fire extinguishers, usually the soda acid type. Some reports indicate that there was no private protection at all. Certainly the value and hazard of the shopping centers indicate the need for private fire protection or private fire brigade comparable to those provided in industrial properties that through long experience have learned that they cannot place all dependence for protection on the public fire department which may be out at another fire. Admittedly, out-of-town owners are difficult to deal with especially where insurance, if any, is placed in some other location far away.

The fire department should do everything possible to encourage installation fire detection equipment and automatic sprinklers. Even simple forms of fire detection such as thermostats near the heater may be helpful. Where there is a municipal fire alarm system, it may be highly desirable to have a fire detection system installed which will call the fire department directly. While this is not always possible in big cities, in suburban areas having only a few high hazard risks, it is often a very effective way of providing important necessary protection. It is possible in some instances to install fusible links which will operate a siren calling the fire department. Remember that your department can do nothing until it knows there is a fire, and the fire record shows clearly that most of the large losses resulted from very extensive delay in detection and alarm. Find out the owner's routine and whether there are any merchant police. It is well to see what the municipal police are prepared to do to aid in safeguarding each store and provide against fire. Perhaps they do try the front door, but if they are asked to be especially watchful for fire hazards, that would help. The fire department should note whether there are automatic controls for the heater. Remember that too much dependence cannot be placed upon all employees in these stores because frequently they are little more than girls or boys recruited for part-time service.

Fire Record

Observations regarding some of the typical fires that have already occurred may be to the point. They will show the causes, the manner in which fire spread, and something of the fire fighting problems involved. There were two large super market fires in 1949 both in California. The first of these was the Kings Market at Daly City. The building was two-story and basement wood frame, stuccoed; covering 23,000 square feet on the first floor. The fire set off a burglar alarm on the safe at 2:24 A.M. and police radioed to the fire department. It seems that a discharged employee hid in the store at closing time, spread cleaning fluid throughout the basement, soaked a broom in solvent, fired the broom and ran through the basement lighting the cleaning solvent. The basement was so completely aflame that cellar pipes were not effective. The fire department deluged the ground floor in an attempt to hold the fire when the floor collapsed, but fire spread to the mezzanine. The fire department saved the south part of the building which did not have a basement. The loss was $446,000. This brings out that incendiary fires are a major problem particularly in structures which are so large as to attract pyromaniacs.

The next large fire was at San Bruno on June 29. The alarm was received at 5:00 A.M. for a fire in the Lucky Stores, Inc. This store had concrete walls, plank and timber floor and tar paper on the wood roof deck. It covered an area of 120 x 175 feet. Employees were working in the stock room and thought that the crackling of flames was static on their radio until they went into the next room which was separated merely by a wooden partition. The fire was believed due to smoking. The fire chief points out that had there been a fire wall through the roof rather than a wooden partition the main store could have been saved despite the late alarm. Outside help was called but the fire was beyond the facilities of manual fire fighting and the loss was $555,000.

In 1948 there were several large super market fires. One of these was on June 6 at Burbank, California, where the King Cole Super Market burned in a fire starting at 12:43 A.M. This store was a one-story and mezzanine building with brick walls and wood truss roof, covering an area of 100 x 120 ft. The fire was discovered by a passerby the morning following a night of inventory taking. It was believed due to a cigarette and started in a grocery receiving room on the first floor. Flames extended up an open stairway and conveyor to the mezzanine which was used as a stock room, then extended across the back of the market and into the attic space between the ceiling and roof. The roof trusses were soon weakened and collapsed taking the fire into the main store. The mezzanine had not been designed for storage. The lack of cut-offs resulted in a $145,000 loss.

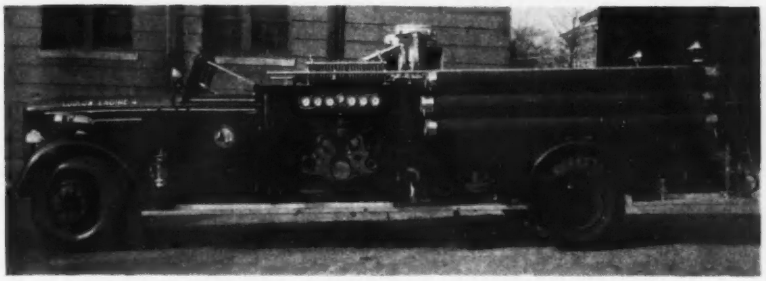
Another fire occurred on September 20, 1948, in the First National Super Market at East Providence, Rhode Island. This building was one-story and basement, brick walls with joist and plank floor and roof on steel truss. The alarm was by police radio at 12:06 A.M. Monday morning. The fire started in a wooden rubbish barrel presumably from a cigarette, extended along a wood post supporting scales up to a celotex ceiling and then into a cockloft and from there into the store. There were no fire stops in the cockloft. This fire was controlled by six hose streams including three fog nozzles. The attack was from front and rear and also by cellar pipe used through roof ventilators while the truck companies cut through the heavy plank roof. Streams were used to knock down the fibreboard ceiling from inside bringing the fire in the roof space under control. An aerial ladder pipe was used intermittently on the fire breaking through at the roof ventilators. The loss was $75,000.

Two other super market fires will re-emphasize the points brought out previously. One of these occurred on October 10, 1946, at Montpelier, Vermont. The fire was discovered at 8:14 Sunday evening by an off-duty fireman. The one-story and basement cinder block wall, brick veneer, A. & P. Super Market caught fire due to a breakdown in wiring to an exhaust fan in the rear. The fire spread along a rear partition and stock shelves through the ceiling involving the roof space and then to the entire first floor. While the loss of the building was only $7,000, the loss to the contents was considerably larger.

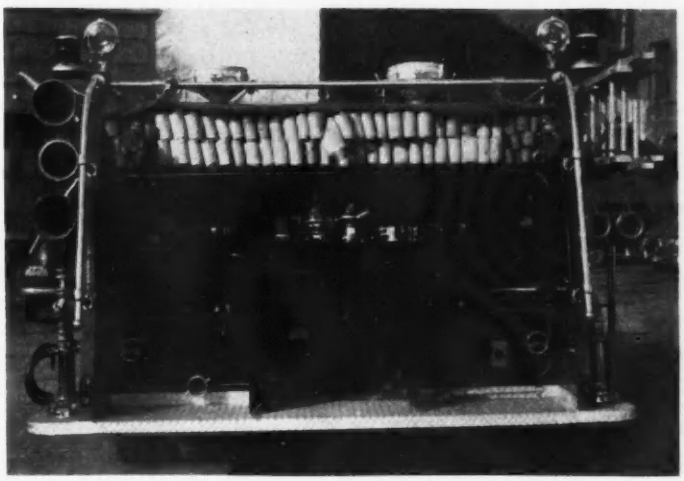
Another super market fire was that of the Kroger Company Super Market at Portage, Wisconsin, on June 29, 1947. This fire was discovered by the faithful milkman at 5:30 A.M. on Sunday morning. Milkmen should get extra pay because of the number of fires they discover in the absence of fire detection equipment. This super market occupied the basement and first floor of an old three-story brick wood-joisted building 125 feet deep. There had been a lightning storm the previous evening which had caused failure of a refrigerator motor in the basement. This was one of those heartbreaking fires according to Chief Rod Porter because while all the skills in the fire fighters book were employed, they were not adequate in the absence of automatic detection and sprinklers. The fire had spread through concealed spaces and under the wood lath and plaster basement ceiling. It was through the first floor when firemen arrived. After ventilation and placing of hose streams the fire appeared to be held in check but the intense heat of burning stock prevented entrance into the basement and eventually an explosion involved the entire building. The loss was $100,000.

New Pumper at Ludlow, Mass., "Has Everything"

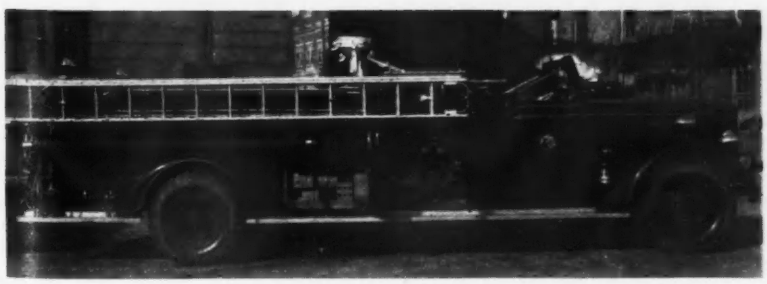
THE Fire Department at Ludlow, Mass., under Chief Rene Dubois, has what is perhaps the most completely equipped pumper truck in the country. The truck was built to Chief Dubois' specifications by the Oren-Roanoke Corporation of Roanoke, Va., low bidder and sold by Zabec Motor Sales of Palmer, Mass. With all equipment as shown below the unit cost $21,565. Chief Dubois, the only permanent fireman in the town, heads a force of 16 call men each of whom is trained to operate the Town's various pieces of apparatus and equipment.



View of the enclosed operating panel for the 1000 gpm Hale Class A pump showing independent pressure gauges for each line and controls for two 1½-in. quick lines. Unit carries 30 ft. 6-in. hard suction and a 90 degree suction elbow. Pump also has four gated 2½-in. intakes which permit capacity operation in relay with truck placed close to fire for initial operation from its 550 gallon water tank. There is also a 30-gallon liquid foam tank and a 20-gallon wet water tank with a Rockwood proportioner. The truck of heavy duty construction throughout is powered by a 240 hp motor. There are two 150 ft. reels of booster hose equipped with combination fog nozzles.



Rear view showing hose and tool compartments. Enclosed compartments have automatic lights. Hose carried includes 1500 ft. 2½-in. and 800 ft. 1½-in. of which the first 150 ft. on each side is made up in preconnected quick lines with combination fog nozzles. The lower compartment contains a 300 gpm Hale portable pump which can be used to supply the main pump from supplies remote from a highway. There are two Scott Air-Pak masks and a very complete assortment of special nozzles and appliances including cellar nozzles, wyes, siamese, etc.

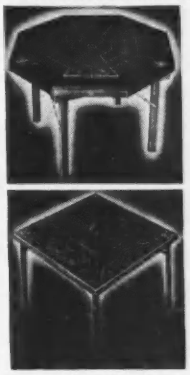


This side of the machine shows compartment for 1500 Watt 4-cycle portable lighting plant, floodlights and 3-way 1000 gpm portable deluge gun on the top deck, hard suction for portable pump, roof and extension ladders, fog nozzles and applicators. A compartment is provided for radio which was not installed when the photos were taken.

TWO UNUSUAL MONEY-MAKING PLANS

EARN $100 CASH WITH GAME OR CARD TABLE PLANS

11 PLANS TO CHOOSE FROM



Guaranteed by Good Housekeeping

Your auxiliary simply sells advertising space on the tops of the tables to local merchants who gladly cooperate. Eleven different plans. CASH and tables, CHAIRS and tables or CARDS and tables. Nothing to pay —not even freight charges! No risk. Mail the coupon today for details about these plans.

F. W. MATHERS, Dept. F.M., Mt. Ephraim, N.J.
Please send information about The Mathers Advertising Table Plans.

Name _____

Organization _____

Address _____

City _____ State _____

YOU CAN Catch THE "FALSE ALARM BUG"!

WITH

FANTOM-FOIL!

Catch the false alarm ringer *red-handed*. A slight smear of Fantom-Foil paste applied to the down-lever of the fire alarm box leaves an invisible stain on the culprit's fingers. Guilty persons are detected when fingers are exposed to our special black light lamp. Simple, effective, inexpensive, this method of catching false alarm bugs is now being used in big cities. Write for full information.

THE NATIONAL MARKING MACHINE COMPANY
4026 Cherry St. Cincinnati 23, Ohio

Country Club Fire at Rosedale, Pa.

By Co-Chiefs C. W. and M. M. Alcorn

THE Rosedale firemen and their wives were having a square dance and dinner at their new fire hall in celebration of New Year's. They had just set their tables for the dinner when the office phone rang (not the fire alarm phone). Mr. Chisholm, manager of the Westmoreland Country Club was on the line. He asked if Co-Chief C. W. Alcorn would come down to the club about two blocks away and investigate some unusual smoke that was accumulating. This call was received at 12:10 A.M. on New Year's Day. Chief Alcorn and two other firemen jumped into a car and hurried to the club. When they entered the kitchen they noticed that three fire extinguishers had been used to combat a fire above the stove in the kitchen.

Chief Alcorn immediately sent one of the firemen back to the engine house to put in an alarm since it was obvious that the kitchen ceiling was involved. The Rosedale American-LaFrance pumper responded immediately with 20 men. The booster pump was put in service in hope that the fire could be checked in the kitchen. Calls were sent for the remaining township fire companies: Oakmont, Thad Stevens, North Bessemer, Lincoln Park, and Universal.

After using the booster line for two or three minutes it was evident that it would not check the fire. A 2½-in. line was then laid to the nearest hydrant which was 1200 ft. away. As other companies arrived additional lines were laid from two other plugs over 1500 ft. from the scene. Due to the limited supply from the 6-in. main these additional lines proved ineffective and two lines were all that could be supplied.

To complicate the problem, ventilating fans were in operation and pulled the fire through the entire building. The space above the false ceilings in the grill room and dining room provided a direct flue over most of the first floor.

The country club building was 40 years old; about half 2 stories and half 3 stories in height. There were no fire walls or fire doors and no automatic sprinkler system. The interior finish was mostly on wood lath.

Seven pumpers responded to the alarms but only three could be placed in operation. A private swimming pool only 30 ft. from the building was empty. Hose used included 4000 ft. of 2½-in. and 600 ft. 1½-in. The Rosedale pumper operated continuously from 12:15 A.M. to 7:30 A.M. The fire was a serious blow to the Rosedale department because it was the first time in the 25-year history of the organization that any local building had been totally destroyed by fire. The loss was $500,000.

41 Fatalities at Davenport

(*Continued from page 10*)

A report by the National Board of Fire Underwriters last year, called attention to the extremely weak manning in the Davenport Fire Department. Company strength seldom exceeds an officer, driver, and one fireman. Two man crews are not unusual. While the off-shift responded to a third alarm at 2:15 A.M. taking reserve apparatus, this manpower was obviously too late to be an important factor in life saving operations. The National Board had strongly recommended a minimum of four men on duty per company in residential districts, and five men in high

Anti-Slip plus Featherweight

For Wear Over Leather Shoes

On in a jiffy — exceptionally light in weight. Note the razor-fine slits in the soles — they cling and stick on chancy footing, even when wet. This is the patented Top-Sider ANTI-SLIP sole famous with sailors. Soft, pliant rubber legs strap high over shoes and trousers. Roll and stow in your car.

Men's Full Sizes 5 to 13
Knee-length $9.75
Hip-length $11.95

AT YOUR DEALER'S OR USE COUPON

SPERRY TOP-SIDER ®

SPERRY TOP-SIDER
29 Main Street, Beacon Falls, Connecticut

SPERRY TOP-SIDER Check Money Order C.O.D.
29 Main Street ☐ ☐ ☐
Beacon Falls, Connecticut
Please send me.....pairs Top-Sider Pilot Boots, Knee-length @ $9.75 pair, size.....
Hip-length @ $11.95 pair, size.....
Name.....
Address.....
City and State.....

value areas. Davenport, with approximately 80,000 population had only 72 active fire fighters at the time of this report. One ladder company had been added subsequently. The National Board had also recommended provision of a fire station near the hospital.

This was one case where gambling with extremely deficient fire department manpower may have contributed to heavy loss of life. Despite the admitted combustibility of the structure and the incendiary origin of the fire, the fact that fire fighters were able to rescue 24 persons from barred windows supports the assumption that properly manned fire companies might have been a major factor in reducing loss of life.

Most of the 24 survivors were rescued from windows on the west side of the building. A light wind of about 7 miles per hour from west-southwest drove the flames away from these windows and out the east side of the building. Little could be accomplished on the east side for this reason. Rescue work was slow and difficult due to the bars and heavy grilles on the windows. No mention is made of use of special forcible entry equipment such as commonly carried on fire department rescue squads. It is significant that 6 or 8 patients were taken from the one window on the second floor where the bars were hinged and could be opened without delay.

Lines were laid by each of the pumper companies on arrival. Most of these lines are said to have been in use during the rescue operations. During the early stages of the fire, lines were advanced into the basement and some portions of the main floor. These lines were withdrawn after a short time because the roof became involved.

The front three-fourths of the main floor had been surfaced with a half inch layer of non-combustible material during the recent remodeling. This helped prevent fire extending to the basement, where the kitchen and dining room were found intact after the fire was brought under control, shortly after 4:00 A.M.

Water supplies were about ample for the ten pumper streams which were in use. National Board tests had shown 2600 gpm available in the vicinity, as compared with a required fire flow of 5000 gpm. Pumpers responding to the first two alarms had a total rated capacity of 5250 gpm, thus were used at about 50 percent of possible peak delivery. This was about all that could have been expected with the available water supply and undermanned companies. One of the eight hydrants on the hospital grounds was out of service due to a broken stem, but hydrants were available in nearby streets. Approximately 30 firemen responded on the first two alarms. Outside help was received from Green Acres and Bettendorf.

Coffee-Loving Firemen!

HAVE YOU TRIED THIS EASIER, BETTER WAY TO ROASTER-FRESH COFFEE?

Whenever you hanker for a cup of coffee—Nescafé* does the trick in jig time. Yes, Nescafé makes *perfect* coffee—*roaster-fresh* coffee—*right in the cup.* No pot, no grounds. It's instant. Simply put one teaspoonful of Nescafé in a cup, add hot water (preferably boiling) and stir.

Nescafé always *keeps* its roaster-fresh flavor until you release it in the cup, and just naturally makes a *better* cup of coffee. Yes, Nescafé knows the way to bring you all the flavor and "lift" of freshly roasted, freshly brewed coffee—*without* the fuss and muss of brewing.

And there's never any waste. You make only what you need. Nescafé is the *instant way* to pure coffee enjoyment. Get a jar today.

More people drink **Nescafé** than all other instant coffees!

*Nescafé (pronounced NES-CAFAY) is the exclusive registered trade-mark of The Nestlé Company, Inc. to designate its soluble coffee product which is composed of equal parts of pure soluble coffee and added pure carbohydrates (dextrins, maltose and dextrose) added solely to protect the flavor.

Extra

THE New Beacon Ray Light

Extra **VISIBILITY... from every angle**
Beacon Ray beams rotate through full 360°

Extra **STRENGTH...**
Beacon Ray emits two powerful signal beams (180° apart)

Extra **360° PROTECTION...running or parking**
Full rotation provides "area warning" regardless of vehicle position.

Federal Enterprises' new Beacon Ray Light is Extra in every respect. Now through and through, this advanced design warning light is an entirely new concept in effective signalling equipment.

Your vehicle will be safer with Beacon Ray Write today for full particulars

FEDERAL ENTERPRISES, INC.
Formerly: FEDERAL ELECTRIC COMPANY, INC.
8717 S. STATE STREET · CHICAGO 19, ILLINOIS

CARPENTER LIGHTS

Instantly Ready

SEARCHMASTER

The Chief picks up his Portable SEARCHMASTER. He's inside the building in time to handle most fires before they get to the dangerous stage, and before floodlights can be set up. All the light you want at the snap of your thumb. Patented handle points anywhere *without cocking* arm. Rechargeable.

WRITE FOR FOLDER

"Master-Light-Makers for 34 Years"

CARPENTER MFG. CO.

168 Master-Light Bldg.
BOSTON—45—SOMERVILLE
MASSACHUSETTS

Boston Hospitals Guard Against Fire

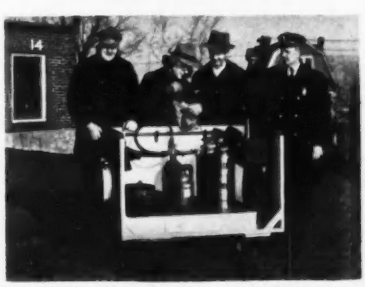
Boston Fire Department photos by Anthony Costa

Members of fire brigade at New England Baptist hospital swing into action with standpipe line, which can be pieced out as needed by spare hose on the hospital fire truck. Note that building is sprinklered.

BOSTON, famed as one of the greatest medical centers in the United States, has not overlooked hospital fire safety. A fire department detail under District Chief Carl S. Bowers makes this a matter of round the clock concern. City firemen are on duty on a 24-hour basis at the huge Boston City Hospital. A fire department engine company and a ladder company are stationed on Long Island in Boston harbor to protect the institutions there. Special attention is given to the training of fire brigades in the 38 hospitals and the 88 homes for the aged within the city.

Chief Bowers is particularly concerned with fire hazards at night when there may be but one nurse on duty on a floor and possibly one night watchman for a building. His fire drill program includes duty stations for doctors, nurses, and orderlies. Chief Bowers considers careless smoking as the chief hazard in hospitals. He recommends automatic sprinklers at least to protect the stairways from basement to roof, and provision of a fire alarm box for each hospital.

He has cautioned hospital personnel that they must remain calm to think and act properly in the event of fire. They must pull the nearest fire alarm box, as well as make certain that the telephone operator has been notified of the exact location of the fire. Then they are to close doors adjacent to the fire and use first aid fire equipment while the Boston Fire Department is rolling.



District Chief Carl S. Bowers and fire brigade members look over fire truck designed for service is hospital corridors.

FOR FIREMEN IN EVERY LOCALITY!

"THE SCIENCE AND TECHNIQUE OF

FIRE

PREVENTION, PROTECTION AND EXTINGUISHMENT"

A comprehensive course covering every phase of these topics interestingly presented in correspondence form. Fire fighters, regardless of where they serve, may now attain greater proficiency and professional knowledge in the privacy of their homes and at their own convenience. While many consider it invaluable for promotional purposes, it is of definite everyday practical benefit to all Firemen.

37 LESSONS—AND 42 WRITTEN EXAMINATIONS

Each examination is rated and returned with individualized comments and constructive suggestions by the examiner, together with model answers.

Prepared and Conducted Under the Direct Personal Supervision of

HAROLD J. BURKE

Chief, N. Y. Fire Dept. (Retired); Captain, U. S. Naval Reserve, in charge of Fire Damage Control, U. S. Fleets, World War II

Available to Veterans under G. I. Bill

Send for Full Information and Detailed Outline of Course. Ask for Booklet F-4

The DELEHANTY CORRESPONDENCE SCHOOL

113 East 15 St., New York 3, N. Y.—Licensed by State of New York

"Over 80% of New York City's Firemen Are Delehanty Trained"

John Bean High-Pressure Service ladder truck. 5-ton chassis; 60 G.P.M., 850 lbs. high-pressure pump; 2 hose lines with guns discharging 30 gals. each; 400-gal. water tank; assorted ladders up to 45 feet.

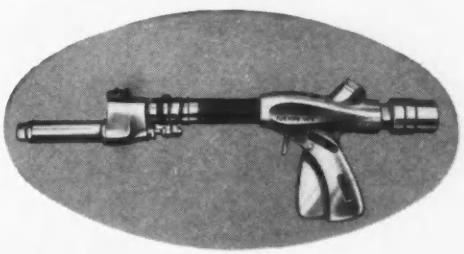
1000 fire chiefs can't be wrong!

More than 1000 fire chiefs are using John Bean High-Pressure Fog Fire Fighters for *first line fire fighting.* Their success and results are substantial proof of every Bean claim.

ONLY BEAN DOES THE COMPLETE JOB

John Bean Fog Fire Fighters . . .

1. **Go into action immediately on arrival**
2. **Eliminate almost all water damage**
3. **Require less than 10% as much water**
4. **Operate simply, both at truck and fire**
5. **Last longer because they are built complete in the Bean factory by experienced high-pressure engineers**
6. **Provide positive displacement slow-speed pump and slow engine speed. No destructive racing of engine**
7. **Carry the patented Bean Fog Gun, unquestioned for superiority in design and efficiency**



THE PATENTED BEAN FOG GUN. Operated at high water pressure, it gives every type of fog pattern for fire fighting. One man can operate it easily.

BEAN *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY AND CHEMICAL CORPORATION

JOHN BEAN DIVISION, DEPT. 127, LANSING 4, MICH. • JOHN BEAN DIVISION (WESTERN), 426 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

FIREFLY

License Plate Signs

24 Hour Visibility

LAS VEGAS FIRE DEPT. TYPE D

PLEASANT VALLEY FIRE DEPT. TYPE C-2

SPRINGFIELD FIRE DEPT. TYPE E

.064 Aluminum 4" x 10"

Also: Fire Chief, Asst. Fire Chief, Fire Company, Fire Dist., Fire Police, Fire Capt., Fire Lieut., Fire Warden, and Fire Marshal *in any type—at the same Price.*

Made with "SCOTCHLITE" BRAND REFLECTIVE SHEETING A Product of MINNESOTA MINING & MFG. CO. St. Paul, Minnesota

Featuring VISIBILITY LEGIBILITY DURABILITY

12 or More, any type 90c ea.
Less than 12 $1.00 ea.

Cash—C.O.D.—or End of Month

PACIFIC REFLEX SIGNS
Box 323, McMinnville, Oregon

CIRCUL-AIR

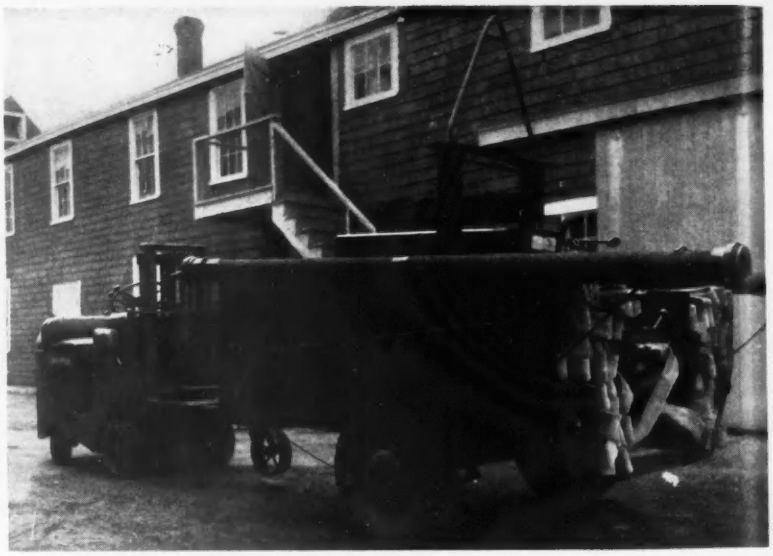
DRIES HOSE IN A FEW HOURS

PATENTED

- Protects and conditions hose
- Saves space — fits in any corner
- Keeps all hose ready for service
- Makes good hose last longer
- Reduces new building costs
- Improves station design
- Dries fire clothing, too

WRITE FOR FREE CATALOG

THE CIRCUL-AIR CORPORATION
575 East Milwaukee Street
DETROIT 2 ✧ MICHIGAN



Amphibious Fire Brigade at Maine Cannery

The R. J. Peacock Canning Company of Lubec, Maine, is protected by an amphibious fire fighting unit consisting of a 500 gpm OCD trailer pump, 1000 ft. of 2½-in. hose, fog and solid stream nozzles. On land the unit is tractor drawn as shown above but is equipped with a yoke by which it can be quickly lifted aboard a sardine boat for use afloat. The plant brigade, known as the Peacanco Fire Department, protects two sardine canneries at Lubec and one at Eastport which while 42 miles distant by land is only three miles away by water. Chief is Robert S. Peacock, son of R. J. Peacock, president of the cannery. Chief Peacock is also a call member of the Lubec Fire Department and while attending the University of Maine responds to fires with the Orono Fire Department. He keeps his personal fire fighting gear in his car so as to be ready for service in either community. The amphibious unit is available for service along the entire Lubec waterfront.

Piston Type Pumper Available from Howe Company

Many rural fire departments dependent upon suction from rivers, deep wells, and other water sources requiring high lift may be interested to know that for this class of service the Howe Fire Apparatus Company of Anderson, Indiana, manufactures a piston type pump capable of meeting underwriters 500 gpm rating requirements. Shown above is a 500 gpm Howe triplex piston type pump on a Chevrolet chassis taking suction through four 10½-ft. lengths of 4½-in. suction hose at a lift of 29 ft. While with this extreme lift it is not possible to obtain full rated capacity, the pump was able to supply two powerful 2½-in. lines plus two ¾-in. lines as shown. The Howe Fire Apparatus Company has been making piston pumps for the fire service for three generations.

A Modern

GAMEWELL

FIRE ALARM INSTALLATION

New Fire Alarm Central Station

This new fire resistive building is especially designed to house the new central fire alarm equipment.

The operating room contains the latest design of Gamewell manually operative—Type A—fire alarm central station equipment for 24 box and alarm circuits. The operator's desk in the foreground is equipped with two GAMEWELL Peerless type manual transmitters, two master recorders combined with time stamps, the necessary control switches, and transmitter for the GAMEWELL Vocalarm voice communication system. Six GAMEWELL Peerless type recorders for establishing permanent records of alarms sent over the box and alarm circuits are shown on the pedestal at the left.

The City of Bethlehem, Pennsylvania, first installed the GAMEWELL system in 1894. When a major enlargement became necessary the City again preferred Gamewell.

THE OPERATING ROOM

GAMEWELL
FIRE ALARM BOX

Bethlehem protects its citizens, and their property, with GAMEWELL Three-Fold fire alarm boxes.

We plan and supply systems for cities and towns of all sizes.

THE GAMEWELL COMPANY

NEWTON UPPER FALLS 64, MASS. U. S. A.

In Canada: NORTHERN ELECTRIC COMPANY, LTD., BELLEVILLE, ONT.

HALE TYPE FZZ Portable Pumping Unit

● Handy for Re-Laying to Major Pumper

● Compact yet powerful!
● Designed for Fire Fighting

Write Today!

FIR

HALE FIRE PUMP COMPANY
Conshohocken, Pa.
Gentlemen:
☐ Please send us detailed information on the HALE Type FZZ Portable Pumping Unit.
☐ We are interested in a demonstration. (No obligation.)
NAME .....
FIRE COMPANY ..... STATE.....
TOWN ..... Phone No.....
*Check square desired.

Directly above — For 12 hours these two FZZ units supplied water through 650 ft. of 1½" hose to a large pumper fighting a barn fire. At top — Single FZZ relaying to major pumper.

Officer Training For Fire Departments

THE Federal Security Agency, Office of Education, Division of Vocational Education, Washington 25, D. C., has issued a twenty-one page mimeographed bulletin Misc. 3345 entitled "Officer Training for Fire Departments." This bulletin was prepared by W. A. Ross, Consultant, Public Service Occupations and Chairman of the N.F.P.A. Committee on Firemen Training, under the direction of Walter H. Cooper, Chief, Trade and Industrial Education Service.

The bulletin, available on request from the Office of Education, contains suggestions for organizing training courses and includes sample subject outlines. These sample outlines include: No. 1, Developing and improving leadership ability; No. 2, Improving company officers, including a self-analysis questionnaire for self improvement; No. 3, Training fire inspectors; No. 4, Teaching ventilating of burning buildings; No. 5, Training instructors. There is also a brief outline giving the stages in organized systematic instruction.

★ ★ ★

John Neale New Chief Engineer National Board of Fire Underwriters

MR. JOHN NEALE, vice president and chief engineer of Underwriters Laboratories, Inc., of Chicago has been named chief engineer of the National Board of Fire Underwriters, 85 John Street, New York City. Mr. Neale is a director of the National Fire Protection Association and a member of a number of NFPA technical committees. He is also a member of the Advisory Engineering Council of the National Board of Fire Underwriters. He represents Underwriters Laboratories, Inc., with the Building Officials Conference of America and with the International Association of Fire Chiefs.

Mr. Neale succeeds the late Calvin G. Lauber, who died shortly after being appointed acting chief engineer on the retirement of George A. Booth.

Mr. Neale reports for duty with the National Board on March 1st. Mr. Neale graduated from Tufts College Engineering School and worked for the Associated Factory Mutual Fire Insurance Companies prior to army service during World War I. After experience with the Tennessee Inspection Bureau he became chief engineer of the Chicago Board of Underwriters in 1924 and joined the Underwriters Laboratories, Inc., in charge of testing of building materials in 1938, subsequently becoming chief engineer in charge of the bulgary protection, casualty and automotive, chemical, hydraulic, building materials, combustion equipment, gases and oils departments.

The North Muskegon Volunteer Fire Department

(Continued from page 15)

Members of the department are thoroughly trained in fire fighting techniques. In 1943 we held our first fire school under the leadership of Battalion Chief Wallace Gannon, then of Muskegon Fire Department,now state fire instructor. Since 1946 we have regularly sent two men each year to the Michigan Fire College, University of Michigan, Ann Arbor. In 1947 we staged our second fire school under the direction of Capt. Wigger Klevering of the Muskegon Fire Department.

The dedication of North Muskegon's new fire station during Fire Prevention Week, 1949, marked the culmination of efforts began by the fire department in 1946. The department initiated petitions requesting the City Council to levy a special assessment of two mills for three years to finance the building of a new fire department. The assessment proposal was placed on the November 1946 ballot and carried thanks to the untiring efforts of the members of the department.

Sixth Annual Arson Seminar at Purdue

THE Sixth Annual Seminar and Training course for arson investigators will be conducted at Purdue University, Lafayette, Indiana, May 8–12, 1950. The seminar is conducted by the Indiana Fire Service Training Schools and The Public Service Institute of Purdue University. Further information is available from Professor J. L. Lingo, Director, Public Service Institute, Lafayette, Indiana.

Corps of Canadian Fire Fighters To Meet at Hamilton, Ontario

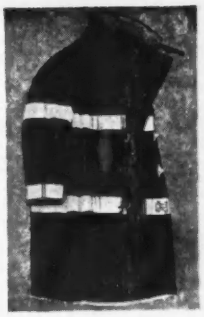
MEMBERS of the Corps of Canadian Fire Fighters who served for thirty months with the British Fire Service during the war-time blitz will hold their 5th Annual Dinner and Convention at the Royal Connaught Hotel in Hamilton on Saturday, April 15, 1950. This anniversary is expected to bring together many Canadian fire fighters who have not seen each other since war days.

FIRE TRUCK FOR SALE

Seagrave Service Ladder Truck with 500 gallon centrifugal pump and 500 feet of 2½" hose. Can be inspected any time at the

Borough of Dormont
2975 West Liberty Avenue
Dormont, Pa.

Send bids to Borough Manager at above address.



The Original MIDWESTERN Yellow Striped Safety Coat Is Again Available . . .

for Men of Action!

Here's Protection and Comfort in Your Hazardous Work of Safeguarding Life and Property Against FIRE!

Modern fire fighting calls for *specialized* protective clothing . . . clothing that safeguards the fireman's life on every run . . . clothing that enables him to use his equipment to the fullest advantage.

Every Midwestern product combines the thoughts and suggestions of practical Fire Chiefs and firemen from every section of the country . . . and every purchaser profits from years of Midwestern research and experience. That is why the famous Mackinaw Coat and other Midwestern clothing have embodied in their design every feature necessary for the protection and comfort of firemen.

In our vast selection of crude rubber materials you will find a type of fabric suitable for your climate and needs. The softness and flexibility in the high-grade materials used are your assurance of long time service and comfort. Many Fire Chiefs are now including Midwestern clothing in their regular yearly budget and by placing your order early you can be assured of this adequate protection when needed.

For complete information have your Midwestern dealer show you our new garments now manufactured from crude rubber compounds. A letter to the factory will also bring you material samples for your inspection.

We now have available: White, Ivory and Brown crude rubber coats for Chiefs, Assistants and other officers: also all sizes short and ¾ length felt lined Firemen's boots for immediate shipment.

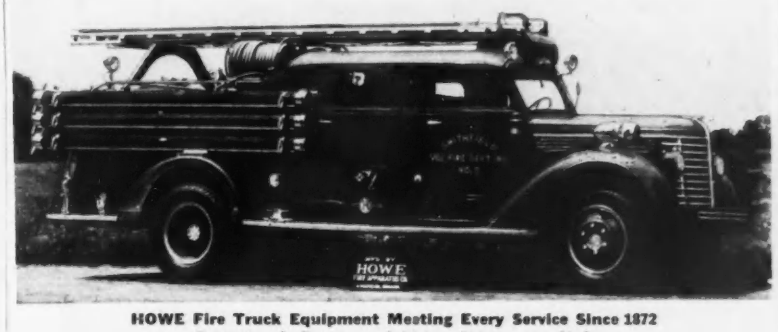
MIDWESTERN MFG. CO. MACKINAW ILLINOIS

Manufacturers of the Famous **MACKINAW Coats**

INDEX TO ADVERTISERS

A. D. T. Co.	5	The General Detroit Corp.	34
American-Marsh Pumps, Inc.	22	Hale Fire Pump Co.	32
Ansul Chemical Co.	23	Howe Fire Apparatus Co.	33
John Bean Mfg. Co.	29	Luverne Fire Apparatus Co.	21
Beacon Falls Rubber Footwear	36	Mack Mfg. Corp.	3
Cairns & Brother	4	F. W. Mathers Co.	25
Carpenter Mfg. Co.	28	Midwestern Mfg. Co.	33
The Circul-Air Corp.	30	National Marking Machine Co.	25
W. S. Darley & Co.	6	The Nestle Co.	27
Delehanty Correspondence School	28	Pacific Reflex Sign Co.	30
Federal Enterprises, Inc.	27	Rockwood Sprinkler Co.	2
The Gamewell Co.	31	D. B. Smith & Co.	35
		Sperry Top-Sider Footwear	26

When you write to advertisers, please mention FIREMEN



HOWE Fire Truck Equipment Meeting Every Service Since 1872
Centrifugal, Rotary and Piston Pumps supplied
HOWE FIRE APPARATUS COMPANY, 1406 West 22nd Street, Anderson, Indiana

No place for a pressure burst!

GENERAL

BWH

DEPENDABLE RUGGEDNESS

Tough fires demand rugged fire hose!

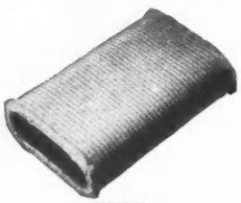
You can't fight tough fires with tired hose! *Maybe* a bucket brigade could handle a *small* fire if hose burst under pressure. But it's smarter to have plenty of BWH Fire Hose on the truck . . . then you're ready for quick action with no breakdowns!

BWH originated circular woven cotton jackets for fire hose . . . a construction that gives strength without weight. BWH high-quality rubber tubes are specially compounded to resist aging. Flat cured to fold compactly and quickly in the truck bed, there's minimum twist and maximum flexibility for rapid advancement.

For detailed information on BWH Fire Hose, call the nearest representative of The General Detroit Corporation. The "General" trademark is easy to find in the classified section of your telephone directory and a call to this organization of acknowledged fire equipment experts will bring you impressive facts about BWH Fire Hose dependability.

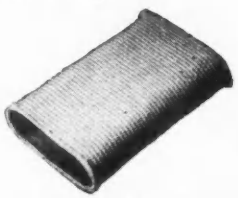
BWH
"BOSTON FIRE JACKET" HOSE

Double Jacket
Heavier, stronger fibers, perfect adhesion, smooth, friction-resistant waterway. Rates tops in every test!



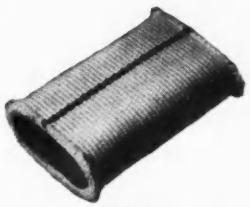
BWH
"PARAMOUNT" HOSE

Double Jacket
Designed for easy handling and long service on tough jobs. Ages well, withstands high pressures.



BWH
"MILO" HOSE

Single Jacket
For long, trouble-free performance in communities where a light service hose is adequate.



BWH
"UNDERWRITERS" HOSE

Single or Double Jacket
Made in strict accordance with the National Board of Fire Underwriters' specifications. Labeled or unlabeled.

Distributors of famous

BOSTON WOVEN HOSE AND RUBBER CO.

Municipal Fire Hose

THE GENERAL DETROIT CORP.

DETROIT 7, MICHIGAN

NEW YORK • ATLANTA • CHICAGO • DALLAS

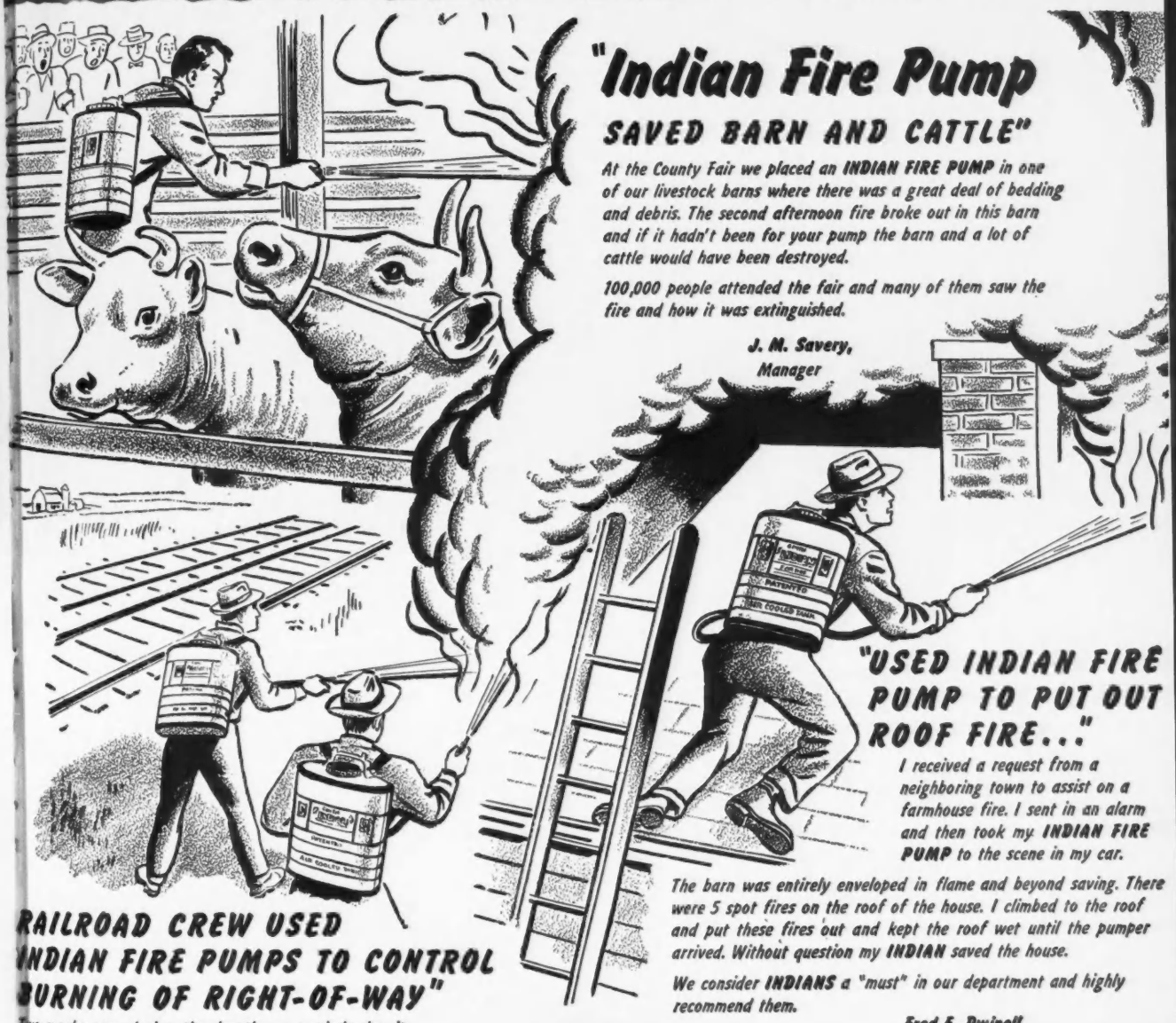
Subsidiary:

THE GENERAL PACIFIC CORP.

LOS ANGELES • SAN FRANCISCO • SEATTLE

Read What Users Say About
INDIAN FIRE PUMPS!

ACTUAL UNSOLICITED TESTIMONIALS TAKEN DIRECTLY FROM OUR FILES



"Indian Fire Pump SAVED BARN AND CATTLE"

*At the County Fair we placed an **INDIAN FIRE PUMP** in one of our livestock barns where there was a great deal of bedding and debris. The second afternoon fire broke out in this barn and if it hadn't been for your pump the barn and a lot of cattle would have been destroyed.*

100,000 people attended the fair and many of them saw the fire and how it was extinguished.

J. M. Savery,
Manager

"USED INDIAN FIRE PUMP TO PUT OUT ROOF FIRE..."

*I received a request from a neighboring town to assist on a farmhouse fire. I sent in an alarm and then took my **INDIAN FIRE PUMP** to the scene in my car.*

*The barn was entirely enveloped in flame and beyond saving. There were 5 spot fires on the roof of the house. I climbed to the roof and put these fires out and kept the roof wet until the pumper arrived. Without question my **INDIAN** saved the house.*

*We consider **INDIANS** a "must" in our department and highly recommend them.*

Fred E. Dwinell,
Chairman Fire District

RAILROAD CREW USED INDIAN FIRE PUMPS TO CONTROL BURNING OF RIGHT-OF-WAY"

*Two weeks ago, during the drouth, on a windy day it appeared the whole pasture country east of here was on fire. Several citizens jumped in their cars and drove in the direction of the fire until they reached the railroad. To their surprise they found the section men were merely burning off the right-of-way and then putting the fire out with **INDIAN FIRE PUMPS.***

*This community needs no convincing as to the value of **INDIANS** and as soon as we had your price list we sold the pumps in advance and mailed you the order.*

McKoy Hardware & Furniture Co.

If you, too, have used INDIAN FIRE PUMPS to advantage why don't you tell us about it? We would like to hear from you.

"DOES A SWELL JOB..."

*Please send your **INDIAN FIRE PUMP** catalog. Our local fire department is equipped with 6 **INDIANS** on one truck and 4 on another. We use them often. The **INDIAN** is easy to operate and does a swell job and has never failed us.*

Arthur L. Kimer,
Secretary, Volunteer Fire Co.

Agents Wanted

FOR DESCRIPTIVE INFORMATION ON THESE FAMOUS FIRE EXTINGUISHERS WRITE TO

D. B. SMITH & CO. UTICA 2, N. Y.

PACIFIC COAST BRANCHES:
Harrington Equipment & Rubber Co., Inc., 435 Brannan Street, San Francisco 7, California
Ray G. Davis Company, 617 East 32nd Street, Los Angeles, California
Fred E. Barnett Company, 2005 S. E. 8th Ave., Portland, Oregon
Fred E. Barnett Company, 600 Spring Street, Klamath Falls, Oregon
Titus Chain Sons, Inc., 2700 Fourth Avenue South, Seattle, Washington
L. B. Curtis & Sons, 420 West Third Street South, Salt Lake City, Utah

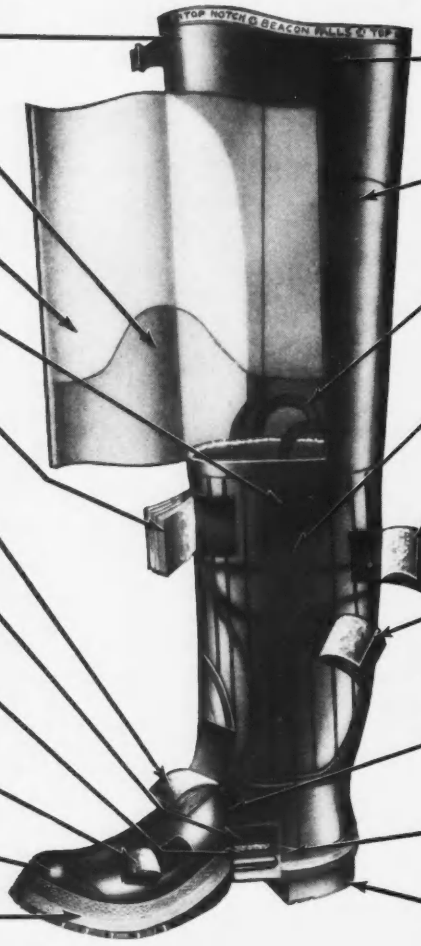
CANADIAN AGENTS:
Fleck Bros. Limited, 110 Alexander Street, Vancouver, B. C., Canada
Duke Equipment Company, Limited, 237 Duke Street, Montreal 3, Canada

only one fireman's boot . . .

Has 20 Advantages!

SIREN

TOP NOTCH SIREN BEACON FALLS CONN.



SPECIAL HIP WITH HIGH FRONT SKIRT, ALSO IN SHORT HEIGHT.

THICK GAUGE INSIDE GUM KNEE PATCH OF CREPE RUBBER - PREVENTS SHARP CRACKING.

NET LINING FOR AMPLE STRETCH THROUGHOUT THE ENTIRE SKIRT.

WARM WOOL LINING THROUGHOUT.

SPECIAL STIFFENING COLLAR TO MAKE IT EASY TO GET INTO THE BOOT.

FOURTEEN PLIES OF FABRIC AND RUBBER WITH SPECIAL THROAT STAY.

WARM FELT LINING, FELT COVERED, CUSHION INSOLE.

REINFORCED LADDER SHANK, CAREFULLY SHAPED TO FIT THE FIREMAN'S FOOT.

NINE PLIES OF FABRIC AND RUBBER AT THE VAMP.

REINFORCING TOE CAP PROTECTION.

EXTRA THICK SUPER-QUALITY SOLES.

STORM KING LENGTH IS 3" HIGHER THAN THE USUAL, GIVING MORE PROTECTION - QUICK ADJUSTMENT.

OUTSIDE, EXTRA RUBBER REINFORCEMENT.

STURDY PULL-ON LOOPS, ON BOTH SIDES.

THIS ENTIRE BOOT IS VULCANIZED BY AMMONIA CURE - A PATENTED, EXCLUSIVE FEATURE.

SIX PLIES OF FABRIC AND RUBBER HERE.

SEVEN PLIES OF FABRIC AND RUBBER HERE - A "SHINGLED" CONSTRUCTION WHICH DISTRIBUTES THE STRAIN. RESISTS SNAGGING AND GIVES MUCH LONGER WEAR.

MADE OVER A SPECIAL LAST, FULLER THROUGH THE ANKLE AND INSTEP.

THICK SIDE GUARDS AT SHANK, GIVING PROTECTION AGAINST NAIL OR SPLINTER PUNCTURING.

FULL SIZE HEEL.

24 YEARS OF
FOOT COMFORT • SAFETY • WEAR

Sold Only Through Authorized Distributors

a product of

BEACON FALLS RUBBER FOOTWEAR

BEACON FALLS, CONNECTICUT